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The Influence of Age Expectations on the Emotion and Clinical Judgment of Social Work Practitioners in an Oncology Setting

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The Influence of Age Expectations on the Emotion and Clinical Judgment of Social Work Practitioners in an Oncology Setting

by

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Dedication

This work is dedicated to my

Conlon and Castellano families

and the American Cancer Society

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The Influence of Age Expectations on the Emotion and Clinical Judgment of Social Work Practitioners in an Oncology Setting

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This study examined the impact of oncology social workers' expectations regarding aging and expectations regarding aging with cancer on their emotion and clinical judgment using path analysis. The data was collected via an on-line survey distributed through the Association of Oncology Social Workers' listserv. Participants were randomly assigned one of four vignettes that described a patient diagnosed with lung cancer. The vignettes differed by the age (78 or 38) and gender (female or male) of the patient, while the content remained the same. Oncology social workers' expectations regarding aging were measured to provide an understanding of their beliefs about the aging process with respect to physical health, mental health, end-of-life, and cancer and mental health. These responses were utilized to predict oncology social workers' clinical judgment during three judgment phases, i.e. anticipatory, diagnostic and treatment. Emotion was evaluated as a possible indirect effect between expectations regarding aging and clinical judgment. Age differences across gender were examined. Overall, the

research supported the hypothesis that practitioners' expectations regarding aging and expectations regarding aging with cancer influence their emotion and clinical judgment. However, the results suggest a disconnection between diagnosis and treatment judgment. Though practitioners were able to diagnose depression and prioritize it highly, the prioritization of treatment for this depression was very low. Moreover, this research suggests that "preparation for end-of-life" and "mental health with cancer" are viable components of the "expectations regarding aging" construct. The results of this study have implications for social work education, practice, policy and research.

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CHAPTER 1

Introduction

Statement of Research Problem

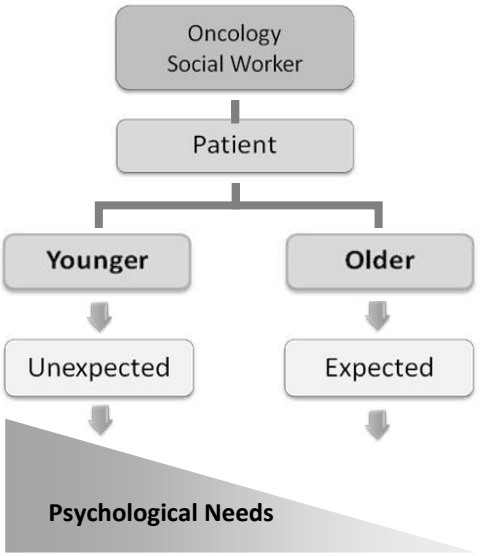
Although people age 65 and above make up less than 13% of the U.S. population, more than half of all new cancer diagnoses occur in this age group. This percentage represents nearly 6.8 million older adults diagnosed with cancer and is expected to double by the year 2050 (Surveillance, Epidemiology, & End Results (SEER) Program, 2009, p. 2). Despite the high rate of cancer among older adults, a significant knowledge gap exists amongst healthcare professionals who provide care to them, particularly with respect to mental health needs. Recent literature suggests that healthcare professionals are more likely to provide psychological/emotional support to younger patients than to those who are older (Ellis et al., 2009). These findings are alarming, particularly in light of the recent report from the Institutes of Medicine that calls for "whole patient" care for people diagnosed with cancer emphasizing the necessity to address patients' psychological and social needs along with their physical need (Adler & Page, 2008).

This study attempts to find a contributor of this healthcare disparity by testing the influence of social work practitioners' expectations regarding aging on their clinical judgment of patient needs. The study's aim is driven from the findings of my previous grounded theory research that explored the care patterns of 18 oncology social work practitioners who provide direct care to adults with lung cancer. In line with the literature, my initial study pointed to the presence of age-related disparity in social workers' care of patients (Conlon, in review). Overall, the oncology social workers in that study believed that younger patients had greater emotional needs than older patients had. They attributed this greater need to the unexpected timing of a cancer diagnosis in

the younger patient. Conversely, older patients were believe to have fewer emotional needs because they had begun to anticipate, prepare for, and/or experience illness as they aged. Thus, the findings in the initial study suggested that the tendency to apportion psychosocial support based on patients' age might be explained by the oncology social workers' expectations regarding aging. Moreover, the data suggest that these age expectations might be mediated by oncology social workers' emotions as the oncology social workers in the initial study expressed emotions for their younger patients; particularly those who were female.

As illustrated in Figure 1, an age expectations model was developed to depict the age-based differences in care.

Figure 1. Age Expectation Model

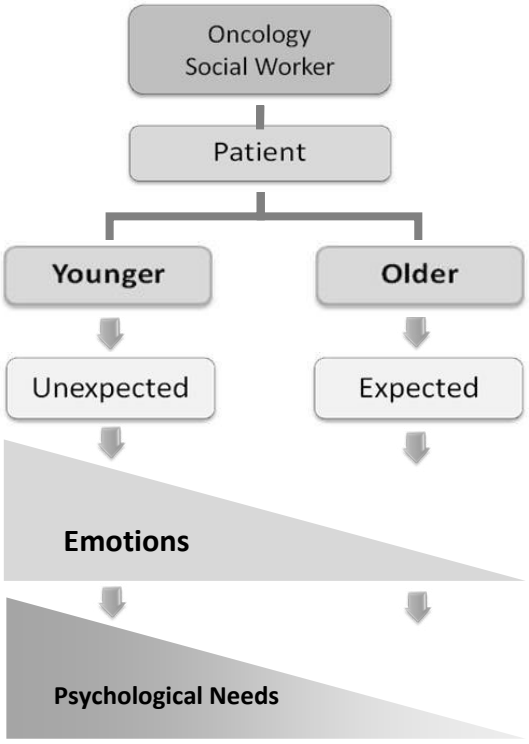


This model begins with the assignment of a patient to the oncology social worker. Based on the age of the patient, the oncology social worker deems the diagnosis as either expected or unexpected. If the patient is younger, the diagnosis is considered an unexpected event. If the patient is older, the diagnosis is considered a more expected

event. Influenced by these age expectations, the oncology social worker makes a clinical judgment regarding the emotional needs of the patient.

In addition to these expectations, social work practitioners' emotions regarding the patient situation might play a role in the relationships between their expectations regarding aging and their clinical judgment. Figure 2 illustrates the insertion of social worker emotion into this model.

Figure 2. Age Expectations Model with Social Worker's Emotions



The model remains the same except for the insertion of social worker emotions. A patient is assigned to the social work practitioner. Based on the age of the patient, the social worker deems the diagnosis as either expected or unexpected. If the patient is older, the diagnosis is considered expected. If the patient is younger, the diagnosis is considered unexpected. Moreover, if the diagnosis is considered unexpected, the social

worker will more likely feel some emotions towards the patient's situation. If the diagnosis is expected, social worker emotion towards the patient's situation is less likely.

Statement of Research Purpose

The purpose of this research is to test the influence of oncology social workers' expectations regarding aging on their clinical judgment as it is mediated by their emotions. Expectations regarding aging are defined as the anticipation of a future event or phenomenon based on age. Clinical judgment refers to the social work practitioners' anticipation and identification of patient's problems and the subsequent formulation of a solution. Emotions refer to the level of feelings experienced by the social work practitioner towards the patient situation. In this study, the event is a cancer diagnosis. My hypothesis is that oncology social workers' expectations regarding aging, mediated by their emotions, will influence how they anticipate and identify the patient's problem and formulate a treatment plan.

Research Questions

The specific research questions for this study are:

1. Does patient's age influence oncology social workers'
    a) emotion towards the patient's situation, and/or
    b) clinical judgment prior to an assessment (anticipatory judgment phase), while completing an assessment (diagnostic judgment phase) and/or while developing a treatment plan (treatment judgment phase)?
2. Do oncology social workers have expectations regarding aging with respect to:
    a) physical health,
    b) mental health,

c) preparedness for end-of-life,

d) cancer and depression,

e) cancer and distress, and/or

f) cancer and anxiety

3. Do oncology social workers' expectations regarding aging and emotion towards the patient's situation predict clinical judgment?
4. Is there an indirect effect between oncology social workers' expectations regarding aging and their clinical judgment?
5. Do age differences in clinical judgment exist across gender?

Significance for Social Work

Although literature on the mental health issues of older adults has increased over the past decade (Blazer, 2009), the amount of research addressing the emotional assessment and care of older adults with cancer is small in proportion to the percentage of older adults who have cancer. Thus, the research described in this proposal will increase the knowledge base by providing an understanding of age-based differences in the diagnosis and treatment of people with cancer. This awareness will guide social work practitioners to improve healthcare management for older adults diagnosed with cancer by providing insight into their expectations regarding aging and by encouraging whole patient care. Moreover, this study will provide support for continuing education and adult learning as well as justification for adding gerontology components to the MSW curriculum in order to prepare social workers for practice with older adults. Additionally, other healthcare professionals; i.e., nursing, psychology, and medicine, who provide referrals to social work, as well as those who provide emotional support to older cancer

patients might find the results from this study beneficial in their own practice. Furthermore, findings from this study might enhance social work departments within cancer centers and their institutional policy for care of older adults diagnosed with cancer. These results will provide a foundation for further research, particularly with older adults who receive care from oncology social workers and other mental health practitioners. Hence, this research will have important implications for social work practice, policy, education and continued research.

CHAPTER 2

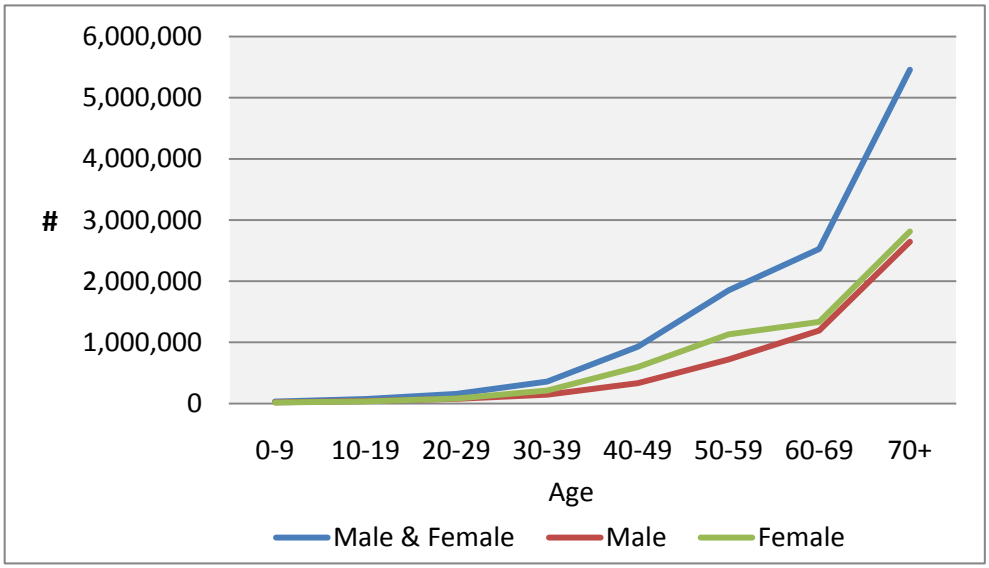
Literature Review

Cancer and Aging

"In the absence of any significant medical breakthrough, we can expect almost an epidemic of cancer, just by virtue of the changing demographics."
Deborah Boyle (IOM, 2007, p.46)

The incidence of cancer increases sharply with age (see Figure 3 below) resulting in more than half of those diagnosed with cancer at age 65 or above (Horner et al., 2008).

Figure 3. Age-Specific SEER Prevalence Rates, 2006



Notes: Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov). Prevalence database: "US Estimated Complete Prevalence Counts on 1/1/2006". National Cancer Institute, DCCPS, Surveillance Research Program, Statistical Research and Applications Branch, released April 2009, based on the November 2008 SEER data submission.

Considering this impending demographic shift, the number of cancer cases is anticipated to grow beyond the point of available care with older cancer patients representing an even larger portion of the cancer burden (IOM, 2007). This shift signifies a need for oncology

social workers who have the knowledge and tools to respond to the needs of older adults diagnosed with cancer.

Older Adults and Cancer

Cancer care generally follows a trajectory of screening, testing, diagnosis, staging, treatment and post-treatment. Though this trajectory remains the same regardless of age, the literature reveals that the experiences of older adults with cancer differ from those who are younger. Older adults tend to have a shorter life expectancy, a lower treatment tolerance and a greater need for caregiver support (Balducci, 2007). Moreover, they are likely to encounter numerous barriers throughout the illness trajectory that impede their ability to achieve optimal care.

Gorin, Gauthier, Hay and Miles (2008) developed a taxonomy of screening barriers commonly encountered by older adults with cancer. It consists of three categories of barriers, 1) group and individual, 2) organization and provider, and 3) policy and population. Though the authors identify these barriers with cancer screening, they can be found throughout the cancer trajectory. Each of these barriers is described below.

Group and individual barriers are those that initiate from the patient and/or family. Broadly, they include increased co-morbidities; functional and cognitive decline; lack of awareness of screening options; financial concerns; limited transportation options; adherence issues; different values of life and perceptions of cancer; limited or lack of social support; and the inability to make informed decisions.

While it is not uncommon for older cancer patients to experience any of these barriers, dealing with co-morbidities becomes particularly burdensome. Conditions such as diabetes, and heart, renal and liver disease may result in drug interactions with

chemotherapy (Given & Given, 2008). Physical and cognitive disabilities are another concern. According to the most recent report by the Centers for Disease Control and Prevention (CDC, 2009), more than half of non-institutionalized adults age 65 and above have reported some form of disability including mobility restrictions (19.2%), cognitive decline (8.1%), hearing deficits (11.2%) and vision impairment (2.8%). These physical and cognitive disabilities may result in various forms of treatment noncompliance and limit access to care (Given & Given, 2008).

Gorin et al's second category consists of organization and provider barriers. These initiate with healthcare professionals and the medical institution. They consist of poor communication or limited shared decision-making found throughout the cancer trajectory including screening, follow-up care, clinical trials and providing communication when treatment is no longer viable. The literature suggests that older age may lead to "different handling" by the physician and medical team. This difference begins early in the cancer trajectory. Couglin, Breslau, Thompson and Benard (2005) found that older cancer patients are less likely to be referred for cancer screening than their younger counterparts. Moreover, a review of the 2000 National Health Interview Survey data demonstrated mammography to be lower in women age 65+ than in those between 50-64 (Meissner, Breen, Taubman, Vernon, & Graubard, 2007). Similarly, in a review of the 2004 and 1998 Medical Expenditure Panel Surveys (MEPS), the 2004 Health and Retirement Survey (HRS) and the Medicare claims data found a decline in mammography screening rates beginning around age seventy (Howard, Richardson, & Thorpe, 2009). Other research indicates that colorectal screening was inversely associated with increasing age in Veterans (Walter et al., 2009).

These differences in care have consequences. Limited screening results in later stage diagnoses that are more difficult to treat (Aapro, 2007). However, even when older

persons were screened and abnormal results were found, follow-up care might not occur (Benard, Lawson, Eheman, Anderson, & Helsel, 2005). When it does, older adults are less likely to be referred to comprehensive cancer centers or to have their cancer staged (Muss, 2009). Several studies suggest that older persons are less likely to receive aggressive treatment regimens than younger persons with cancer and in some cases, less likely to receive chemotherapy (Earle et al., 2000; Schrag, Cramer, Bach, & Begg, 2001; Smith et al., 1995). Moreover, older patients are less likely to be offered participation in clinical trials (Kemeny et al., 2003) leading to research that does not translate well to older cancer patients, particularly with respect to treatment effects and complications (Lichtman, 2009). In one study, investigators found that physicians did not offer clinical trials to older patients with cancer because they believed that toxicity levels caused by the treatment and patient co-morbidities would cause adverse effects (Kemeny et al., 2003; Lichtman, 2009). These types of decisions result in limited knowledge about treatment and disease effects of older cancer patients (Given & Given, 2008).

Finally, policy and population barriers consist of a lack of professional guidelines for screening in older age; confusing or limited reimbursement plans, and a lack of older cohorts for clinical trials (Gorin et al., 2008).

A review of the literature illuminates age differences in cancer care. Some scholars conjecture that these differences are due to the age expectations of medical professionals and older cancer patients themselves. Curtin, Barakat and Hoskins (1994) postulate that medical professionals make care decisions based on their expectations that older cancer patients are less likely to survive the disease and treatment than younger cancer patients. Van't Veer-Tazelaar, et al. (2008) note that care decisions made by older adults are influenced by their own low expectations regarding aging.

Older Adults and Mental Health

Along with the physical manifestations of the disease, older adults with cancer might experience a cluster of mental and social dynamics that put them at risk for mental health problems such as depression, anxiety, distress, and adjustment to illness (Vink et al., 2009; Zabora, Brintzenhofeszoc, Curbow, Hooker, & Piantadosi, 2001). Feelings of stress, fear, anger, guilt, loss of control, sadness and confusion are not uncommon throughout the cancer trajectory (Institute of Medicine (IOM), 2008, p. 31). Psychological disturbances may be created or exacerbated by the diagnosis itself due to cancers' many unknowns and the knowledge that cancer can be a life threatening disease. The impact of cancer symptoms, treatment and treatment side effects may affect emotional well-being as well. Though symptoms will differ based on cancer type and stage, general symptoms such as fatigue, pain, fever, unintentional weight loss, and skin changes exact an emotional cost (American Cancer Society, 2009). Moreover, treatment protocols such as surgery, chemotherapy or radiation further amplify physical and psychological stress with a host of physical challenges such as nausea and vomiting, hair loss, fatigue, infection, sleep disorders, mouth sores, bowel changes, delirium and so forth (American Cancer Society, 2005). Finally, once treatment is completed, the trajectory continues with ongoing follow-up care and screening (DeLisa, 2001). Enduring health impairment is a reality, as some might face residual disability and permanent damage to organs. Furthermore, individuals with a cancer history are more likely to report having fair to poor health, co-morbidities, difficulty performing activities of daily living and cognitive impairment (Hewitt, Rowland, & Yancik, 2003; Yabroff, Lawrence, Clauser, Davis, & Brown, 2004).

Co-morbid conditions such as vascular damage from hypertension, coronary artery disease, and diabetes mellitus impact rates of depression (Katon, 2008; Lichtman et

al., 2008; Luijendijk, Stricker, Hofman, Witteman, & Tiemeier, 2008; van't Veer-Tazelaar et al., 2008) as can physical manifestations such as persistent insomnia (Ford & Kamerow, 1989; Pigeon et al., 2008). Co-morbid conditions might also lead to polypharmacy, which can exacerbate mental health conditions (Beekman et al., 1995; MacReady, 2005; U.S. Department of Health and Human Services, 1999).

Social issues such as having a non-married status, being alone during the day, having low levels of support, lower social status and lower self-esteem, were found to be risk factors for depression and other mental health challenges (Beekman et al., 1995; U.S. Department of Health and Human Services, 1999; van't Veer-Tazelaar et al., 2008). Moreover, loss in perceived locus of control was found to be a primary risk factor for mental health concerns (Beekman et al., 2002).

Vink's analysis of the Longitudinal Aging Study Amsterdam revealed a number of predictors of depression, anxiety, and depression with co-morbid anxiety in older adults (2009). Predictors for depression included the increased number of co-morbidities, functional limitations, functional status decline, loneliness, recent widowhood, older age, lower educational status and previous history of depression.

Full understanding of depression and anxiety in the older population remains clouded as researchers have only recently begun to focus on mental health issues in older adults. Blazer (2009) reports a 1% - 4% prevalence of major depression and a 4-12.9% prevalence rate for minor or subsyndromal depression in community samples. Others report an 8 to 20% prevalence rate of depressive symptoms in older adults (Alexopoulos et al., 1997; Extermann & Hurria, 2007; Gallo & Lebowitz, 1999), while late life depression has been detected in 25% of people with chronic illnesses, including cancer (Beekman et al., 1995; Blazer, 2009; Borson & Raskind, 1986; Callahan, 2001; Oxman, Barrett, Barrett, & Gerber, 1990). Anxiety symptoms are reported in 12% - 17% of older

men and 19% - 21.5% of older women (Himmelfarb & Murrell, 1984; Mehta et al., 2003; van Hout et al., 2004). While some studies have found little to no difference in depressive symptoms from middle age to older age (Blazer, Burchette, Service, & George, 1991; Charles, Reynolds, & Gatz, 2001), others report an increase in depressive symptoms as people age (Nelson, Cho, Berk, Holland, & Roth, 2010; Nelson et al., 2009).

Reporting and Diagnosing

The wide spread in prevalence rates might reflect the fact that mental health issues in older adults tend to be underreported and unrecognized (Klapow et al., 2002). This occurs for a variety of reasons. Research indicates that older age, male gender, and lower psychological impairment were all associated with underreporting of depressive symptoms on the Diagnostic Interview Scale, a self-report measure (Eaton, Neufeld, Chen, & Cai, 2000). Moreover, the presentation of mental health symptoms in older adults differs from those who are younger which adds to the complexity of diagnosing depression. Depression frequently mimics physical symptoms in older adults thus masking the underlying psychopathology (Blazer, 2003, 2009; Koenig & Blazer, 2003). This is coupled with older patients who are more likely to emphasize somatic problems to their physician and show a preference for treatment from a primary care provider rather than a mental health professional. Additionally, the course of depression in older adults tends to be more chronic with longer recurrences and shorter remission periods (Alexopoulos & Chester, 1992; Cole, Bellavance, & Mansour, 1999). Older adults may even refuse to accept a diagnosis of depression due to the accompanying stigma (Sirey et al., 2001). Furthermore, the belief that one's depression is a normal response to loss of a loved one, increased physical limitations, or changing role in society might cause a delay

in seeking medical intervention initially and in underreporting once treatment is sought. This potentially leaves the physician with a misleading picture of what is going on with the older patient.

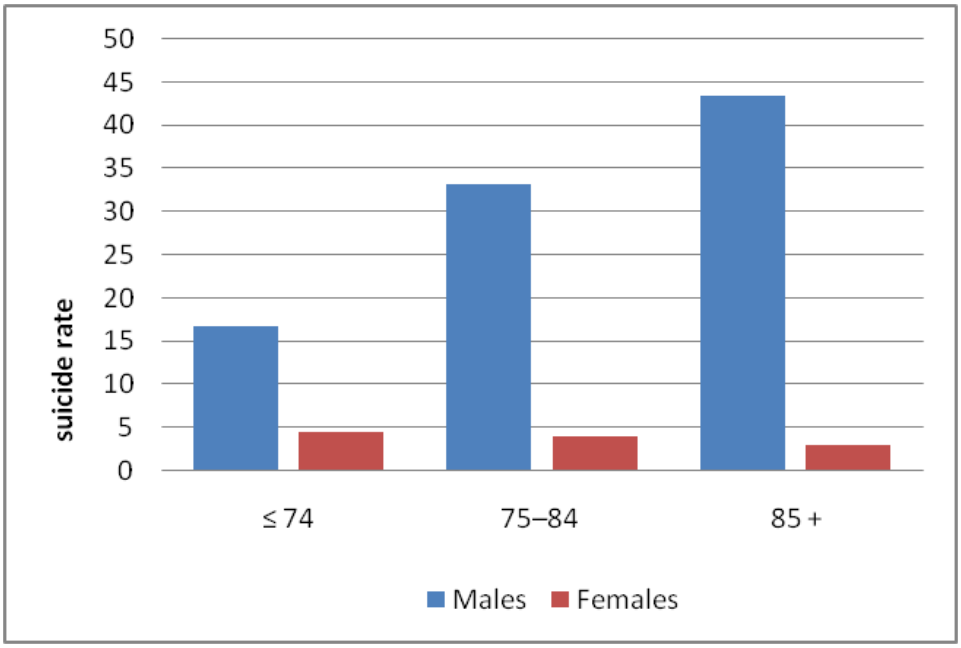
Studies have shown that a large majority of physicians view depression as "understandable" in older persons (Gallo, Ryan, & Ford, 1999). Additionally, providers may simply lack awareness of the manifestations of mental disorders in the older adult or they may be reluctant to stigmatize clients with a mental health diagnosis. Finally, physicians may attribute signs and symptoms to age-associated afflictions such as atherosclerosis or Alzheimer's disease. The complexity of presenting physical symptoms coupled with the increasing restriction of time spent with patients can have the unfortunate impact of prioritizing medical concerns and neglecting mental health concerns (Glasser & Gravdal, 1997).

Consequences

Research conducted over the last decade has suggested that depression can have a number of consequences for the older adult with cancer. It can lead to functional impairment, increased falls, sleep disorders, decreased quality of life, decreased physical activity, relationship problems, increased progression of cancer symptoms and pain (Cesari, Landi, Torre, Onder, & Lattanzio, 2002; Fann et al., 2008; Hopwood & Stephens, 2000; Penninx, Leveille, Ferrucci, van Eijk, & Guralnik, 1999; Spiegel & Giese-Davis, 2003; Weinberger, Roth, & Nelson, 2009). Moreover, without treatment, minor and subsyndromal depression are likely to persist or increase over time (Lyness et al., 2006). In a study of 1,841 breast cancer survivors between the ages of 67 and 90 who had been diagnosed previously with depression, researchers found that these survivors were more likely to receive non-curative therapy and to have higher mortality rates than

those who were not previously diagnosed with depression (Goodwin, Zhang, & Ostir, 2004). In line with this, Penninx, et al. (1999) found an increase in mortality for men with minor depression and women and men with major depression. Likewise, Mehta, et al (2009) found that decreased cognitive function and depressive symptoms together have an increased risk of mortality. Furthermore, depression is a top risk factor for suicide in

Figure 4. U.S. Suicide Rates 2009



Note: Data retrieved from the Center for Disease Control, National Center for Injury Prevention and Control, 2009, http://webappa.cdc.gov/sasweb/ncipc/mortrate10_sy.html

older adults, particularly males. Late onset depression is associated with 60-75% of suicides in older adults (Conwell, 1996; Conwell et al., 1996). Suicide rates increase sharply with age beginning at age 75 with the highest number of suicides occurring in those 85 and older (see Figure 4 above). Moreover, individuals aged 65+ have the highest rate of suicide for any age group. Indications are that these suicide rates are

increasing (McKeown, Cuffe, & Schultz, 2006). Physical illness, along with social isolation and being divorced or widowed, makes older males particularly vulnerable for suicide.

A recent study using the SEER Registry data had found that the suicide rate for those with cancer is almost twice that of the general population and increases with age. Lung cancer had the highest suicide rate of all cancer types (Misono, Weiss, Fann, Redman, & Yueh, 2008).

Physical Health Implications

For older adults, the effects of pre-existing illnesses and disabilities further increase the stress associated with cancer (Hewitt et al., 2003) as well as difficulties with health related decision making (Funucane, Slovic, Hibbard, Peters, & Mertz, 2002). Depression contributes to excess disability by making it more difficult for people with impairments to function autonomously. Distress and suffering can lead to or exacerbate other physical conditions by decreasing one's ability to care for oneself, or by impairing physiological functions in some fashion. Increased risk for physical disorders concomitant with decreased ability for self-care are critical implications of mental health issues, such as depression, for the older adult (Alexopoulos, 2005). A meta-analysis of 20 studies and five reports concludes that depression is associated with increased risk for low bone mineral density and bone fractures (Mezuk, Eaton, & Golden, 2008). Results of a meta-analysis of seven studies, representing 6,414 incident cases, concludes that depression is associated with a 60% increased risk of type 2 diabetes (Mezuk, Eaton, Albrecht, & Golden, 2008). Another study suggests that depressive disorder might be a risk factor for incident back pain (Larson, 2004). Moreover, research is supportive of

depression as a cardiac risk factor (Frasure-Smith & Lespérance, 2005) and has been associated with excess morbidity and mortality (Pinquart & Duberstein, 2010).

Along with the mental health implications associated with the physical aspect of cancer are those associated with financial burden of the disease. In addition to the direct costs of medical care, the treatment and symptoms themselves may impact the employment of patient and/or family caregivers (USA Today/Kaiser Family Foundation/Harvard School of Public Health, 2006). Although many older patients have Medicare or other forms of insurance, it does not cover the indirect (i.e., travel, time, homecare) or out-of-pocket (i.e., premiums, co-pays, deductibles as well as medications and procedures that are not covered by Medicare) medical costs associated with cancer care (Lyman, 2005). These expenses can lead to delay in treatment, a decision not to have treatment at all, noncompliance with medications or other costly medical necessities, exhaustion of savings and possibly bankruptcy.

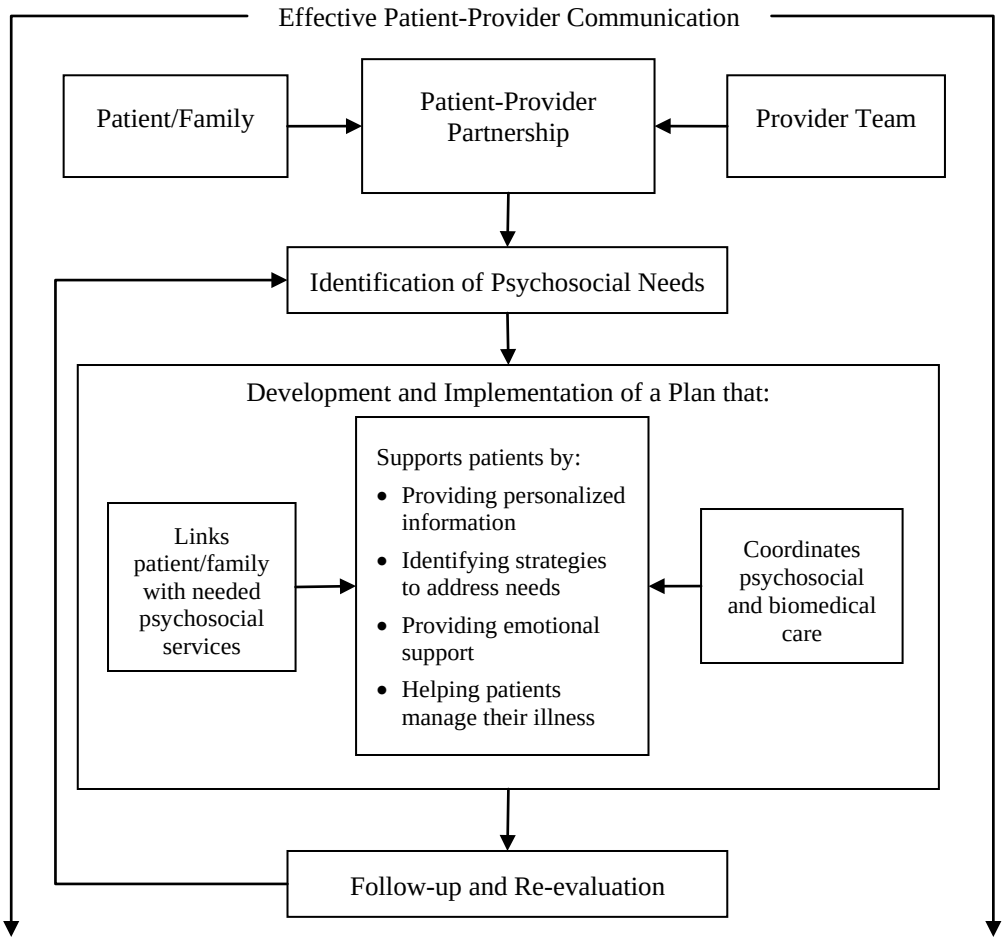
Care for the Whole Patient

In 2005, the Institutes of Medicine convened a group of cancer experts in the fields of medicine, psychology, and social work to look at the psychosocial service needs of people diagnosed with cancer and their families (Adler & Page, 2008). Their agenda included an examination of available resources for patients and families, delivery systems of and access to these resources, current and projected capacity levels, training requirements for providers, and the identification of barriers to care. This endeavor resulted in the report, *Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs* which calls for the management of the psychological and social needs of people diagnosed with cancer, along with the physical care they receive (Adler & Page, 2008).

IOM Guiding Model

The Institute of Medicine (IOM) offers a guiding model to address the psychosocial health needs of patients with cancer (see Figure 5 below).

Figure 5. IOM Model for Delivery of Psychosocial Health Services*



* Reproduced with permission from *Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs*, 2008 by the National Academy of Sciences, Courtesy of National Academies Press, Washington, D.C.

This model is contingent upon the successful communication between the patient and the provider. It suggests that the provider team (i.e. social workers, psychiatric nurses, psychologists, etc.) form a partnership with the patient and family. Together, they

identify psychosocial needs and develop and implement a plan to address these needs. Without this communication, gaps will occur in care.

Age Related Gaps in Care

The literature demonstrates that older persons diagnosed with cancer do experience mental health concerns. However, gaps exist in the provision of psychological/emotional care for these patients. Callahan (2001) found that fewer than 50% of depressed older adults in primary care received adequate treatment for depression, while fewer than 19% of depressed older adults who received standard care for depression, reported improvement after a 12 month period (Unützer et al., 2002).

Though this area is not well researched, the few studies that exist show a consistent pattern of age disparity of psychological care in the healthcare environment. Rohan et al. (1994) examined the clinical transactions of oncology social workers employed at three outpatient oncology centers in Massachusetts. They found that oncology social workers provided more individualized treatment to younger patients (ages 18-64) and spent less time addressing the psychological needs of their older patients (ages 65 and older). More than a decade later, Ellis et al. (2009) conducted a similar study. These researchers reviewed the clinical referrals made by the medical team of people with advanced cancer receiving outpatient care at Princess Margaret Hospital in Toronto, Canada. Their results showed an age related referral pattern; younger patients were more likely to be referred for psychosocial care than were the older patients, even though the older patients presented with similar symptoms of depression. In a much earlier study, Perlick & Atkins (1984) presented psychologists with an audiotape of an actual clinical interview of a man with depression. Half the respondents were told that the man was age 55; the other half was told that he was age 75. The authors found that

clinicians were more likely to rate the younger person as having depression and the older person as having organic pathology (i.e., dementia). Though these studies are few, they show a consistent pattern of age related disparities in the allocation of psychological/emotional care.

Previous Research

My earlier grounded theory study explored oncology social workers' perspectives of the lung cancer experience by interviewing 18 oncology social workers employed at prominent cancer centers across the United States whose direct care experience included more than 10,000 people diagnosed with lung cancer per year. These oncology social workers varied in age (mid 20s through mid 60s) and years of oncology experience (3 months to over 30 years). All were licensed social workers. Data analysis using constant comparison pointed to age differences in patient care, particularly with respect to the identification of emotional needs. Oncology social workers perceived younger patients as needing assistance with the emotional aspects of the diagnosis, i.e. psychological needs and advance directives, health care directives and the living will while older patients were perceived as needing assistance with the functional aspects of the diagnosis, i.e., transportation, caregiver and financial concerns. The quote below, taken from the grounded theory study, is representative of this finding:

"[Lung cancer consists] mostly of an older population. They accept the disease and that the prognosis of death is within a year or two. The younger the patient, however, the more difficult it is, there is a lot of stress and anxiety with a cancer diagnosis. Whereas, the older they are, the more they accept it."

A second aspect of this study included asking respondents to recount a memorable case. Of the cases recounted, only one concerned a patient above age 65. This finding

was notable as two-thirds of adults with lung cancer are age 65 or above (American Cancer Society, 2008). Respondents reported that recency of the case and/or the emotionality of the case made it memorable. One participant became emotional during our interview when she spoke of a 33-year-old female patient with three young children. Another participant used the word "heartbreaking" when talking about a 40-year-old female patient. However, those two statements provide gender content as well as age content; the two young patients were female. Additionally, of the cases recalled by the oncology social workers, just four (26.6%) included a male patient, even though more than 50% of those diagnosed with lung cancer are men (American Cancer Society, 2008). The statement below is representative of a response provided when asked about gender differences in the lung cancer experience:

"You know for the most part, I think there are gender differences. This will sound very stereotypical, but I think males tend to be more stoic about it while females tend to address their emotional needs in addition to insurance and medication and other things like that."

Results of the few studies that explore gender bias and the diagnosis of depression are mixed. Lewis et al. (2006) found that when provided with a standardized patient, either male or female, female medical students were more likely to diagnose the female patient with depression. In an earlier study using vignettes, Wrobel (1993) found that clinical psychologists were more likely to diagnose females with major depressive disorder and males with organic mental disorder. Similar studies with psychiatrists have found no differences in diagnosis of depression by gender (Kales et al., 2005; Olfson, Zarin, Mittman, & McIntyre, 2001). Although the findings are mixed, age differences by gender will be explored in this study.

In summary, the grounded theory study brought forth the concept of age-based differences in patient needs and the attribution of these differences to the expected or unexpected nature of the cancer diagnosis. These age-based differences in the allocation of care is supported in the literature (Ellis et al., 2009). Furthermore, respondents reported that female patients were more expressive of their psychological/emotional needs while male patients tended to be stoic, however, no gender differences in patient needs were reported. Because the literature is mixed in its findings of gender-based differences in care, age differences in clinical judgment will be tested by gender.

Treatment Success of Psychological Needs of Older Adults

Several treatment methodologies exist to assist older adults diagnosed with depression. Though studies examining the effectiveness of treatment for depression in older persons are not extensive, there have been some significant findings. Treatment protocols for older persons with depression primarily consist of a combination of psychotherapeutic/psychosocial methods with antidepressants or antidepressants alone (Beyer, 2007). Treatment benefits have been reported.

Kornblith, et al. (2006) found that when compared to a control receiving usual treatment, a telephone intervention group reported significantly lower anxiety, depression and distress scores than those of a control group. An Italian study of 93 older patients (over age 60) and 186 younger patients suggests that treatment response in older persons is similar to that in younger persons except for a slower response to antidepressants (Mandelli et al., 2007). A meta-analysis of Collaborative Care Interventions (CCIs), a collaboration of mental health and primary care providers, found CCIs to be more effective than usual care in reducing suicidal ideation and depressive symptoms and increasing remission in older patients (Chang-Quan et al., 2009).

Antidepressants played an effective role in this collaboration. Dutch researchers performed a random control trial comparing Bright Light Therapy with a placebo of 89 older adult patients (age 60 and above) diagnosed with major depressive disorder. Results showed significant reduction in non-seasonal depression in older adults in the experimental group (Lieverse et al., 2009). Another randomized control trial comparing treatment as usual plus Cognitive Behavioral Therapy (CBT) to a treatment as usual plus talk therapy control found CBT to be effective with older persons diagnosed with depressive disorder (Serfaty et al., 2009).

IMPACT was another treatment for depression that showed success with older adults. IMPACT is a collaborative program that provides disease management for up to 12 months. It consists of two processes; 1) systematic diagnosis and outcome tracking and 2) stepped care. The IMPACT method proactively identifies and tracks depressed patients; enhances patients' self-management through education and brief therapy; supports additional treatment as warranted; and provides for mental health consultation for difficult cases. Usual care consists of primary care or referral to a mental health professional.

From 1998 – 2003, the John A. Hartford Foundation, California HealthCare Foundations, Robert Wood Johnson Foundation and Hogg Foundation funded a Improving Mood – Promoting Access to Collaborative Treatment for Late Life Depression (IMPACT) trial. This trial consisted of 1,801 depressed older adults (mean age 71.2 years) from 18 primary care clinics in eight health care organizations in five states. Respondents in this study were randomly assigned to either the IMPACT care treatment group or the usual care group. Researchers found that IMPACT doubled the effectiveness of usual care (Unützer et al., 2002). Treatment effects persisted over a 24 month period with IMPACT care accounting for an additional 116 depression-free days

(Katon et al., 2006). Moreover, researchers found reduction in depressive symptoms, greater remission rates, less functional impairment and greater quality of life in a trial using a sample of older patients diagnosed with cancer (Fann, Fan, & Unützer, 2009).

In summary, standard treatment protocols for older adults with depression consist of psychotherapeutic/psychosocial methods with antidepressants or antidepressants alone. The literature points to a number of successful interventions to help older adults manage their depression.

Theoretical Framework for the Study

Life Course Theory: Principle of Timing

Life course theory, particularly, the principle of timing, underpin this dissertation research. Life course theory encompasses work from many fields, traditionally sociology and psychology, but also biology, history, demography, and social work among others. It is defined as a contextual, time, and process based model that draws upon human research across the lifespan beginning at birth until death (Elder, Johnson, & Crosnoe, 2003). Elder, Johnson and Crosnoe (2003) developed five paradigmatic principles to differentiate the many facets of this broad theory, i.e. life-span development, agency, time and place, timing, and linked lives. Table 1 below defines each placement.

Table 1. Paradigmatic Principles of Life Course Theory

Principle	Definition
Life-Span Development	Human development and aging are lifelong processes beginning at birth until death.
Agency	Individuals construct their own life course through the choices and actions they take within the opportunities and constraints of history and social circumstances.
Time and Place	The life course of individuals is embedded and shaped by the historical times and places they experience over a lifetime.
Timing	The developmental antecedents and consequences of life transitions, events, and behavioral patterns vary according to their timing in a person's life.
Linked-Lives	Lives are lived interdependently and socio-historical influences are expressed through this network of shared relationships.

Adapted from Elder, Johnson and Crosnoe (2003)

The *Principle of Timing* defines the theoretical basis of this research. It posits that chronological age influences the developmental antecedents and consequences of life transitions, events and behavioral patterns. Life transitions are gradual changes e.g., childhood to adolescence; adolescence to adulthood, adulthood to old age, whereas events are abrupt changes, e.g., a promotion, an accident, a diagnosis, etc. (Settersten & Mayer, 1997). Specifically, this study focuses on the timing of a cancer diagnosis in one's life and the expectations that are linked to that timing. These expectations are referred to as "expectations regarding aging" throughout this document.

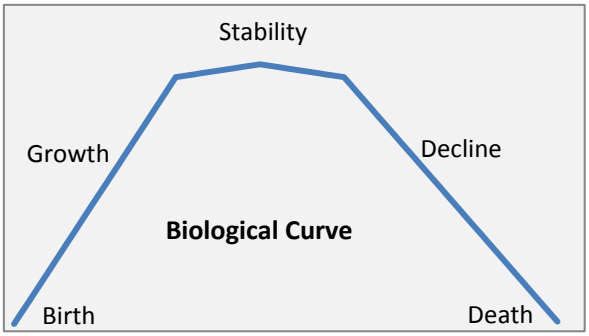
The sequence, duration, and spacing of transitions and events are important components of timing (Hagestad & Neugarten, 1985). Sequencing is the order in which a transition or event occurs over the life course; duration is the length of time of the transition or event, and spacing is the length of time between two or more transitions and/or events. The concept of sequencing is present throughout this research. There is an underlying assumption that a cancer diagnosis at a younger age comes before many of the key transitions and events, i.e. education, employment, marriage/partnership, child birth, child rearing, retirement and so forth. Conversely, a cancer diagnosis at an older age comes after key transitions and life events.

Historical Tenets of Timing and Expectations Regarding Aging

Charlotte Bühler (1933, 1935) introduced the concept of timing in the 1930s by examining the biographical data of approximately 400 people of various cultures, social classes, vocations and age to understand if and how the social, psychological and vocational aspects of individuals had a regular course similar to the human biological "curve of life" (Bühler, 1935; Frenkel, 1936). Bühler defined the curve of life as consisting of three phases: growth, stability and then decline (see Figure 6 below)

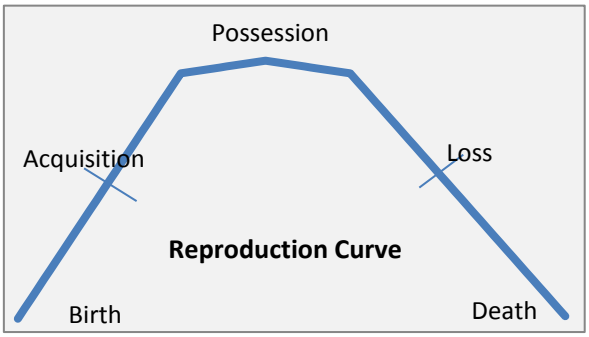
Simply stated, life began with a period of growth accompanied by increased strength for approximately the first twenty-five years, a period of stability followed for another twenty to thirty years, then followed by a decrease in vitality until death.

Figure 6 Biological Curve with three phases



Frenkel-Brunswik, Bühler's assistant at that time, examined reproduction to determine if it related to the biological curve of life. She noted that as with the biological curve, reproduction had three phases. However, there were five periods within the three phases to account for hormonal changes. As noted in Figure 7 below, the first phase has a period of "Acquisition." This represents the beginning of puberty and menarche.

Figure 7. Reproductive curve with five periods

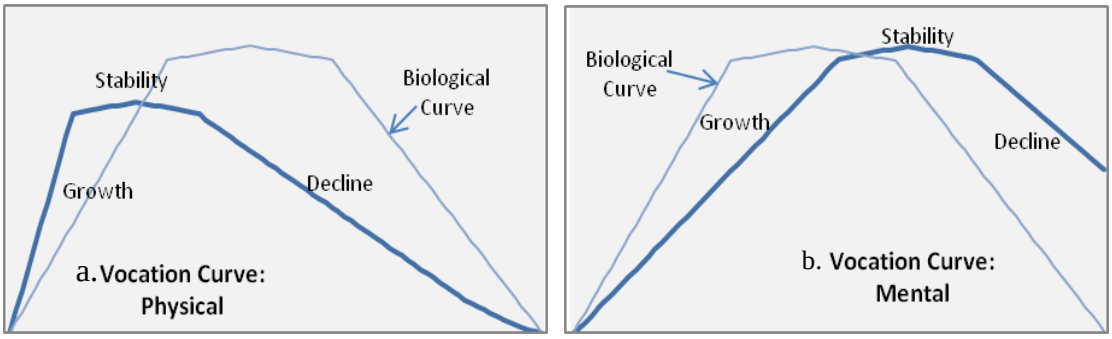


Likewise, the third phase has a second period of loss to represent finality to reproduction and menopause.

These curves served as a frame of reference for Bühler and Frenkel-Brunswik's further work on the life course including the vocation, social and psychological curves.

They examined vocation next. They found that vocation curves were similar to the biological and reproductive curve except for a noticeable shifting of the peaks that differed based upon the type of vocation one possessed, i.e., physical or mental. For example, the shift would peak early for physical workers such as athletes and artisans, and later for mind workers such as diplomats, philosophers and certain kinds of scholars (see **Error! Reference source not found.**a, b below). For all other vocations, the curve ould culminate close to that of the biological curve.

Figure 8a, b. Physical and Mental Vocation Curves compared to Biological Curve

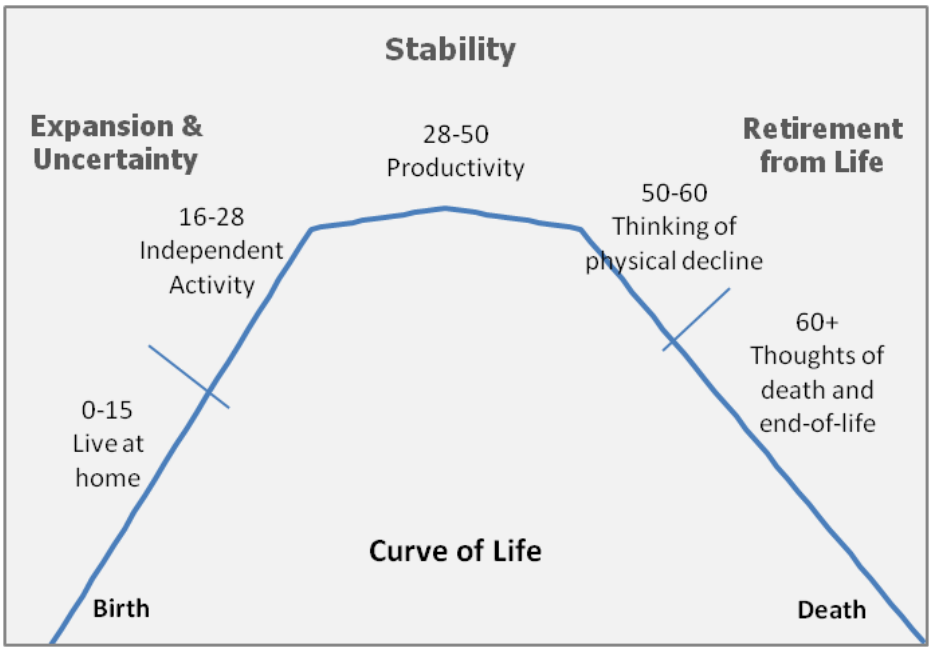


As they extended this research to the social sphere of an individual's life, they discovered a "regular sequence in events, experiences, and attainments in life" (1935, p. 406) which, except for some shifting, resembled the biological course. They found that the social curve, which they called "curve of life," tended to grow slower, peak later and decline later (see Figure 9 below). As with the reproduction curve, they divided this "curve of life" into three phases with five periods: a preparatory phase with two periods, a stability phase with one period, and a retirement phase with two periods (Frenkel,

1936). During the first period of the preparatory phase, the individual lives at home until approximately 15 years of age. This is followed by a period of independent activity from the ages of 16-28. At this point, the number of life events increase until middle age. Next, a period of stability ensues which begins between age 26 to 30 and lasts until 48 to 50 years. Frenkel-Brunswik considered this period of stability to be the most fruitful time of one's life. Individuals made choices for home and vocation and any losses that occurred were replaced by new events, such as a new job, new friends, new marriage, etc. The period of stability is then followed by a period Bühler called "retirement from life" (Frenkel, 1936, p. 6). Negative dimensions such as sickness and the non-replacement of losses in various areas of life such as activities, economics, strength, and family and friends, arose for the first time. These turning points were considered distinct junctions in the course of life.

Bühler and Frenkel-Brunswik continued their work by examining how people felt about life events as they occurred during the course of life. Three phases with four periods were identified. The first phase encompassed a feeling of expansion and uncertainty up until age 20-30. It was marked by an uncertain attitude towards life with a desire to experience a great deal, meet new people and acquire education and culture. Following this was a phase of certainty and definitiveness that began between ages 28 to 30 through 48 to 50 years of age. The third phase consisted of two periods. In the first period, which lasted between ages 50 to 60, individuals would think of physical decline, the beginning of old age and finding meaning in life. Thoughts of death and end of life began in the second period of this stage, around age 60 (see Figure 9 below).

Figure 9. Curve of Life



Bühler's work on the curve of life discontinued at this point as World War II brought the disbandment of her Institute and her relocation to the United States. Her work in the life course lay relatively dormant until the 1960s when she began to publish again on this topic (Bühler, 1964; Bühler & Massarik, 1968).

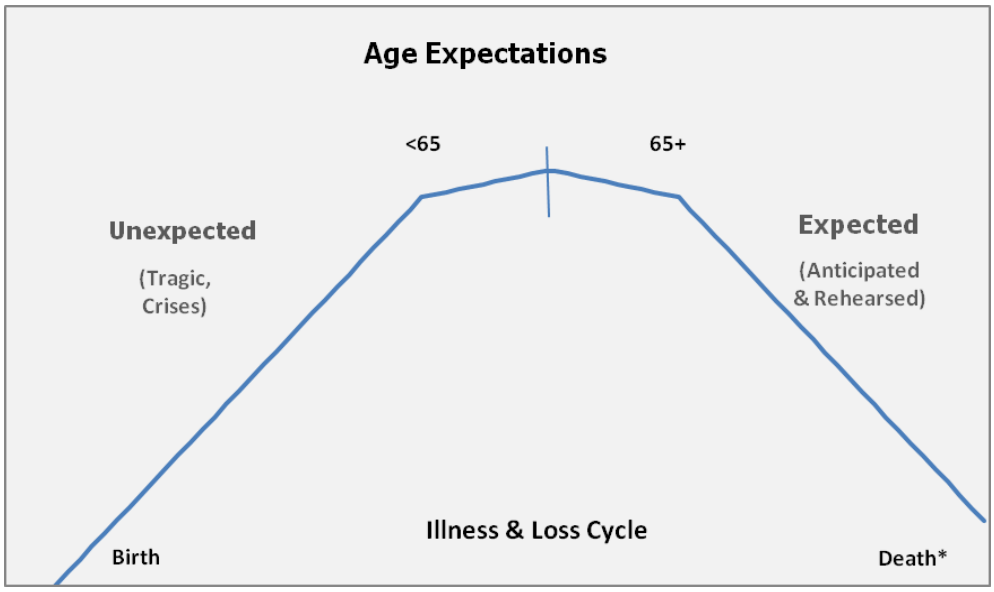
During this same time period, Bernice Neugarten, an American social psychologist, had begun to write about age groups, norms and age-appropriate behavior (Neugarten, Moore, & Lowe, 1965). She defined "Sociology of the Life Course" as an approach that "concentrates on age-related transitions that are socially created, socially recognized, and shared" (Hagestad & Neugarten, 1985). Analogous to the work of Bühler and Frenkel-Brunswik, she declared that the life span is divided into periods based loosely on age (Neugarten & Peterson, 1957). She noted that major life events (i.e.,

entering school, starting a job, getting married, starting a family, retiring, etc.) generally followed a sequence throughout the lifespan (Neugarten et al., 1965).

Neugarten's conceptualization of age related expectations moved beyond Bühler and Frenkel-Brunswik's work on curves of life. She suggested that the sequence of major life events created "a normal, expectable life cycle" postulating that individuals have their own social clocks and will consider themselves "early," "late," or "on-time" when achieving a transition or event (Neugarten, 1969; Neugarten et al., 1965, p.711). She considered normal, expectable life events to be turning points. If an event did not come at the expectable time, it could cause crises (Pearlin, 1982). Thus, a child leaving home at a certain age is normal and expectable, likewise is retirement at a certain age. Most salient to the research in this dissertation, however, is her premise that events such as death and sickness have been anticipated and rehearsed by older individuals (see **Error! Reference source not found.** below). She states that, "Even death is a normal nd expectable event for the old. Death is tragic only when it occurs at too young an age. Even the death of one's spouse, if it occurs on time, does not create a psychiatric crisis for most men or women" (1979, p. 889).

Thus, it follows that as one ages, illness and even death become more expected. This expectation encourages planning and rehearsal. When the illness arrives, the individual will be emotionally ready resulting in little or no need for emotional resources. On the other hand, an illness that comes early in life is unexpected and can lead to crises. At that point, emotional support becomes imperative for the younger adult.

Figure 10. Illness & Loss Cycle



*For illustrative purposes, lifespan is assumed at life expectancy for U.S. population, i.e. 80.69.

Consequences of Expectations Regarding Aging

In light of Bühler and Frenkel-Brunswick's work, Neugarten's concept of age expectations is understandable. However, these expectations regarding aging might have consequences. In the early 1980s, Kart noted that misattribution or over-attribution of symptoms to the aging process could have deleterious effects (1981). Specifically, researchers who surveyed older persons found that those who attributed their symptoms to old age (i.e., expectations regarding aging) were less likely to seek help (Prohaska, Keller, Leventhal, & Leventhal, 1987) and more likely to accept the illness and its symptoms (Leventhal & Prohaska, 1986). Sarkisian hypothesized that older people who attribute illness to aging are less likely to "engage in self-care and health promoting behaviors that make successful aging possible" (Sarkisian, Hays, Berry, & Mangione,

2002). She developed the Expectations Regarding Aging – 38 scale (ERA-38) to measure older persons' expectations regarding aging and to compare these scores with health behaviors, service use and health (Sarkisian et al., 2002). A low score on the ERA-38 denotes low or negative expectations regarding aging while a higher score denotes high or positive expectations.

Studies using the Expectations Regarding Aging-38 item (ERA-38) or the ERA-12, a shorter version, have demonstrated that lower expectations regarding aging is independently related to low physical activity levels (Sarkisian, Prohaska, Wong, Hirsch, & Mangione, 2005), have an impact on health status (Kim, 2006), and are related to health behaviors and appraisals (Weltzien, 2007). Thus, it is suggested that expectations regarding aging can influence older persons' judgments with respect to self-care, health promotion behaviors and care seeking.

Sarkisian's next step has been to identify older persons with low expectations regarding aging and provide them with an intervention that increases their expectations. A recent pilot study that provided an "attribution retraining" intervention, along with exercise, to a community sample of 46 sedentary adults age 65 and older, resulted in increased walking levels, improved quality of life and a 30% increase in ERA scores.

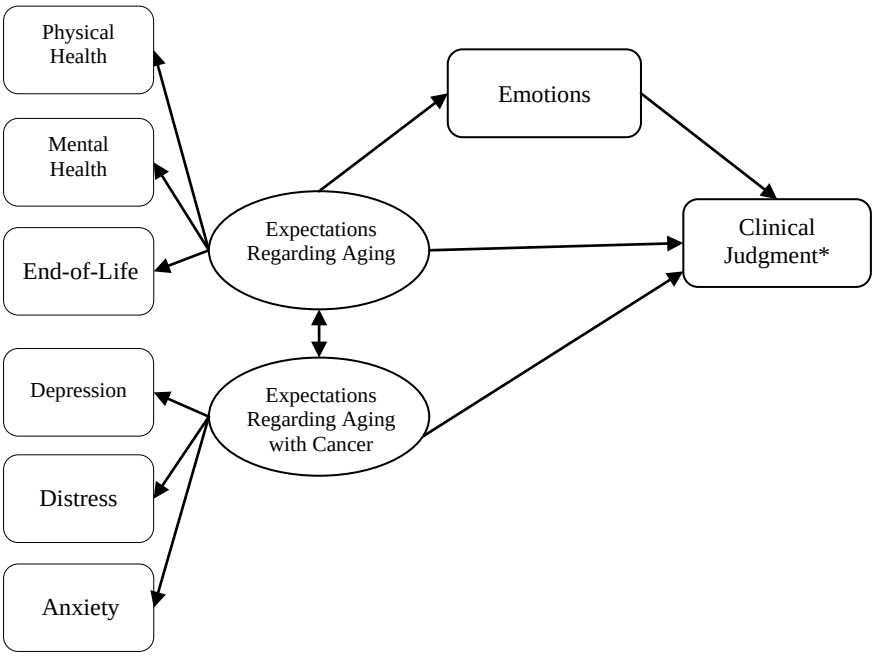
While Sarkisian and other researchers look at the older person's expectations regarding aging and its influence on care behaviors towards self, my research examines the provider's expectations regarding aging and its influence on their care behaviors towards the patient, i.e., anticipation, diagnosis and treatment. My previous grounded theory research suggested that social workers have certain expectations regarding aging and these expectations inform social workers' practice. This dissertation study will use information gathered from that previous research and the literature, along with the

Physical Health and Mental Health domains of the ERA-12 to develop a conceptual model and research design that will test the findings of the grounded theory research.

Conceptual Model

The conceptual model for this research, as illustrated in Figure 11 below, consists of eight observed variables. These include the predictor (independent) variables: Expectations Regarding Aging with respect to Physical Health, Mental Health, End-of-Life, Depression, Distress, and Anxiety; the indirect/mediating variable, Emotions; and a Clinical Judgment response (dependent) variable.

Figure 11. Conceptual Model for Expectations Regarding Aging



* This variable represents the response variables Anticipatory Judgment, Diagnostic Judgment and Treatment Judgment which will be calculated separately.

The overarching hypothesis for this study is that the Expectations Regarding Aging and Expectations Regarding Aging with Cancer influence Clinical Judgment and

that Emotions serves as an indirect path between Expectations Regarding Aging and Clinical Judgment.

Aims & Hypotheses

This study has four primary aims and one exploratory aim. The first aim seeks to identify the influence of patient age in clinical judgment by examining oncology social workers' prioritization of patient needs. The second aim seeks to calculate and interpret the oncology social workers' level of expectations regarding aging and Expectations Regarding Aging with Cancer. The third aim seeks to confirm a path model for expectations regarding aging. The fourth aim seeks to identify and confirm an indirect effect between expectations regarding aging and clinical judgment. The fifth and final aim explores age expectations across gender. These aims and their corresponding hypotheses are outlined below.

Aim 1. To examine if a patient's age influences oncology social workers' a) clinical judgment and/or b) emotion towards a patient's situation

H1a. Patient's age influences clinical judgment during each of the three judgment phases (i.e., anticipatory judgment, diagnostic judgment and treatment judgment)

H1ai. Psychological/Emotional needs are prioritized higher for Age-38 patients and Functional needs are prioritized higher for Age-78 patients during each of the judgment phases

H1b. Patient's age influences oncology social workers' emotion towards the patient's situation

H1bi. Emotion is reported higher for Age-38 patients than for Age-78 patients

Aim 2. To examine oncology social workers level of expectations regarding aging with respect to physical health; mental health; preparedness for end-of-life; and cancer and depression; cancer and distress; and cancer and anxiety

H2. Oncology social workers have low expectations regarding aging with respect to physical health; mental health; preparedness for end-of-life; and cancer and depression; cancer and distress; and cancer and anxiety.

H2a. Social workers' expectations regarding aging scores for physical health (ERA PH) will be equal to or below 50.

H2b. Social workers' expectations regarding aging scores for mental health (ERA MH) will be equal to or below 50.

H2c. Social workers' expectations regarding aging scores for preparedness for end-of-life (ERA EOL) will be equal to or below 50.

H2d. Social workers' expectations regarding aging scores for depression and cancer (ERAC-Depression) will be equal to or below 50.

H2e. Social workers' expectations regarding aging scores for distress and cancer (ERAC-Distress) will be equal to or below 50.

H2f. Social workers' expectations regarding aging scores for anxiety and cancer (ERAC-Anxiety) will be equal to or below 50.

Aim 3. To test if oncology social workers' expectations regarding aging and emotion towards the patient's situation predict clinical judgment

H3. The Expectations Regarding Aging path model will meet the criteria for good fit

Aim 4. To identify any indirect effects between expectations regarding aging and clinical judgment

H4. An indirect effect exists between expectations regarding aging and clinical judgment

Aim 5. To test if age differences in clinical judgment exist across gender

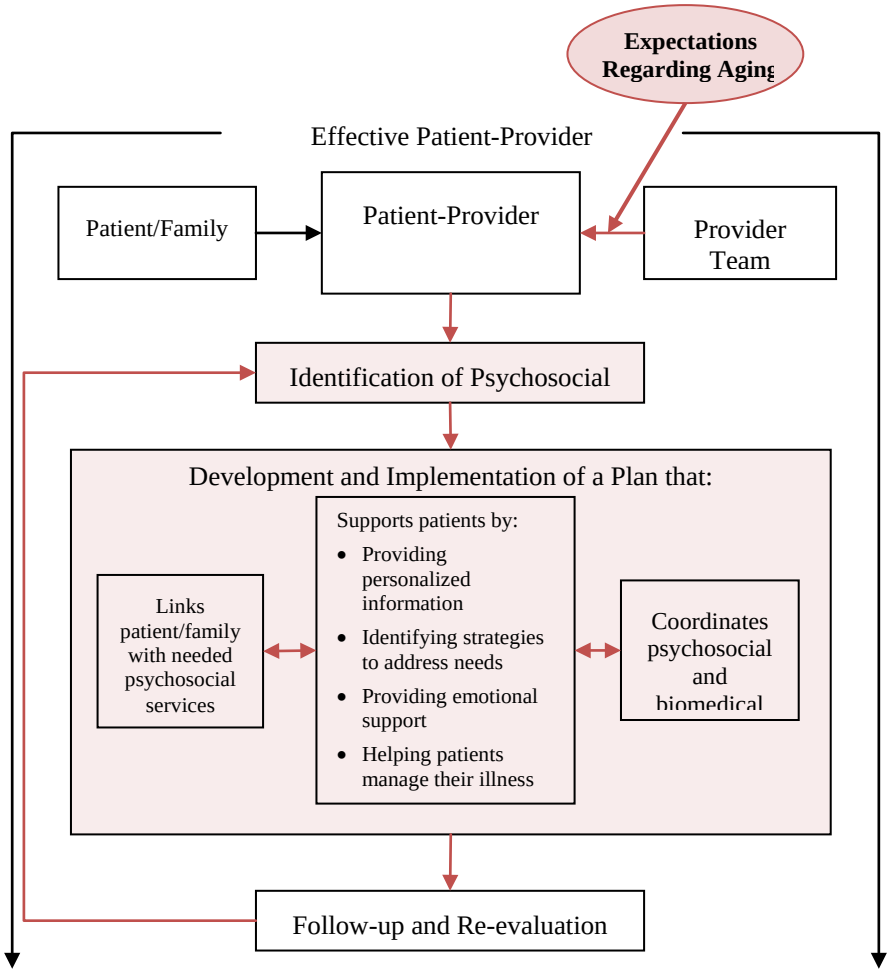
H5a. Age differences in clinical judgment exist between age-38 and age-78 female patients

H5b. Age differences in clinical judgment exist between age-38 and age-78 male patients

Presence of Age Expectations in the IOM Model

As noted earlier, the IOM created a Model for Delivery of Psychosocial Health Services. If the hypotheses are correct and Expectations Regarding Aging do influence Clinical Judgment, then Expectations Regarding Aging will influence IOM's Model for Delivery of Psychosocial Health Services by impeding the identification of psychosocial needs and the development and implementation of a treatment plan (see **Error! eference source not found.** below).

Figure 12. IOM Model: Appearance of Age Expectations



* Adapted from *Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs*, 2008 by the National Academy of Sciences, Courtesy of National Academies Press, Washington, D.C.

CHAPTER 3

Design and Methods

Overall study design

This study investigates the influence of expectations regarding aging on clinical judgment by focusing on social workers' anticipatory, diagnostic and treatment judgment in response to a two-part vignette. It also examines social workers' reported emotions about the case presented in the vignette and if these emotions have an indirect relationship between age expectations and clinical judgment.

There are three reported methods for studying clinical judgment; 1) the vignette, 2) the review of archival data, and 3) the comparison of standardized assessment and diagnostic measures with usual assessment and diagnostic measures (Lopez, 1989). The first method, the vignette, is a brief, realistic portrayal of a patient (or client) case history that allows the researcher to change one or more patient variables, such as age or gender, while leaving the remainder of the vignette intact. By permitting the researcher to control external effects, the vignette allows for increased internal validity (Abramowitz & Herrera, 1981; Lopez, 1993). Limitations to this method, however, include the possibility of social desirability, reduced external validity because the vignette's relevance to an actual clinical encounter may be compromised (Ferguson & Negy, 2004), and the possibility that the vignette may not generate the same emotionality as an actual case (Abramowitz & Herrera, 1981). In spite of these possible limitations, recent medical studies that compared actual medical records with responses to vignettes have demonstrated that the responses to vignettes correlate well with actual medical records (Peabody, Luck, Glassman, Dresselhaus, & Lee, 2000; Peabody et al., 2004).

The second technique, archival studies, is a method of studying clinical judgment by reviewing patient records and examining clinical notes that specify the care previously provided to the patient. The major limitation with this method is that it generally cannot control for extraneous variables or differences in the status of the individual groups being studied (Lopez, 1989). Furthermore, archival studies will not provide data that is useful for testing the theory presented in this study. It can only provide the researcher with an accounting of the clinician's actions, not why the clinician chose those actions at that time. The third technique compares the diagnosis and treatment of clinicians who use standardized evaluation procedures with those who use "usual" evaluation procedures. The inability to control fidelity, however, makes this design prohibitive.

Upon consideration of the three methods mentioned above, this study will use the vignette method. It is feasible, it permits the manipulation of age and sex in order to examine a change in social work clinical judgment and it has strong internal validity.

Participants

Sampling

This study sample was drawn from oncology social workers who were members of the Association of Oncology Social Work (AOSW)'s professional listserv, known as the Social Work Oncology Network (SWON). AOSW is a non-profit, international, 501(3)c professional organization "dedicated to the enhancement of psychosocial services to people with cancer and their families" (AOSW, 2010). AOSW currently has 921 members, most of whom are oncology social work practitioners. Previous research using the AOSW listserv had achieved a response rate of 63.4%, with n = 535 (Zebrack, Walsh, Burg, Maramaldi, & Lim, 2008).

Utilization of the list for survey purposes requires that the researcher be a member of AOSW or be sponsored by a member of AOSW, that the study be relevant to oncology social work, and that it have prior approval from the researcher's institutional review board. After receiving approval from the University of Texas Institutional Review Board, a copy of the IRB application including a link to the survey was sent to Mary Ann Burg, PhD, LCSW, Director of the Social Work Oncology Research Group (SWOR) for her review. She approved the use of the listserv on July 12, 2010. No costs were associated with its use.

Inclusion and exclusion criteria of sample. This study specifically examined oncology social workers who provide care to adults diagnosed with cancer in the United States. Thus, inclusion criteria consisted of oncology social workers at the BSW or MSW level who are members of the AOSW SWON network, employed in the United States, and who have or have had direct practice responsibility for adults diagnosed with cancer. Exclusion criteria consisted of AOSW SWON members who were not oncology social workers or oncology social workers who were not employed in the United States and/or who did not have direct practice experience with people diagnosed with cancer.

Recruitment

Respondents were recruited via an on-line email solicitation through the AOSW SWON. Many of Dillman's suggestions for establishing successful recruitment efforts were used in this study (2009). An email was sent to the AOSW listserv informing members of the on-line survey. As per Dillman's suggestion, this email acknowledged their expertise as oncology social workers, that their time was very valuable and that the researcher would appreciate their spending 10-15 minutes to complete the survey. Dillman also stresses the importance of establishing trust with potential respondents.

This was accomplished by informing respondents that I am a student of the University of Texas at Austin, and that, like them, I am an oncology social worker, and a member of AOSW. I also included the names and university contact information of my faculty sponsors, Dr. Namkee Choi and Dr. Barbara Jones. Dr. Barbara Jones previously served as the President of the Association of Pediatric Oncology Social Work (APOSW) and is well known in the AOSW community. Along with this information, the email contained a brief description of the survey, my contact information, and a link to the survey. Clicking on the link brought up the consent form. If respondents decided not to participate in the study, they clicked on "No thank you" and were immediately taken out of the survey and back to their browser. Clicking on "I would like to take the survey" would bring them to the first set of demographic questions. Respondents were able to exit from the survey at any time by closing the browser window or by selecting "Exit" in the upper right corner on every page. Upon completing the last question on the survey, a screen appeared that thanked respondents for their time and explained how to receive the incentive.

Recruitment follow-up. One follow-up email request was permitted and was sent to the list three weeks after the first email in order to capture responses from those who did not respond during the initial recruitment period as well as new members to SWON.

Incentive. All respondents who supplied their contact information received a $5 Starbucks gift card as a small token of appreciation for their time and effort. Research examining the effectiveness of monetary incentives suggests that they decrease sampling bias by increasing the participation rates of those who would normally not participate (Guyll, Spoth, & Redmond, 2003). Additionally, incentives have been found to be ethically innocuous when the research is not risky and the respondent is not in a

dependent position with the researcher (Grant & Sugarman, 2004). Information about the incentive was contained in the recruitment and follow-up emails.

Confidentiality

In order to receive the incentive, respondents were required to provide their names and addresses at the end of the study. They accomplished this by following the instructions on the last page of the survey. By clicking on "$5 Starbucks gift card", respondents were brought to a separate database where they entered their names and addresses. This allowed them to remain anonymous to me and delinked their contact information from their survey responses. The incentive was administered by a social work colleague who was not associated with AOSW, SWON, or their membership. Respondents' names and addresses were downloaded from Survey Monkey into word format and printed on labels that were eventually affixed to envelopes. The social work colleague mailed one $5 Starbucks gift card to each person on the list. All names and contact information were deleted from the database sixty days after all Starbucks gift cards had been mailed.

Consent

The consent form appeared on the first page of the survey. It followed the internet guidelines of the University of Texas at Austin Institutional Review Board by containing information about the survey, the incentive, my name and contact information as well as the contact information of the chair of the University of Texas Institutional Review Board (see Appendix E for a copy of the consent form). Respondents were expected to read the consent form. Upon reading the form, they were given the option to participate in the study or to opt out.

Data collection method

The data collection method for this study was an on-line survey developed and administered through Survey Monkey. In order to decrease respondent burden, the survey was designed to be short and easy and personal information was kept to a minimum, including only those demographics that are generally asked in surveys, i.e., respondents' age range, gender, race/ethnicity and cancer status. In order to avoid missing data, however, the survey was designed to require a response to each question before moving to the next question. The survey consisted of one randomly assigned vignette presented in two parts along with 29 survey questions and 10 demographic questions. The 29 survey questions included one open-ended question, three ranking questions, and three likert-type scales that consisted of the remaining 25 questions (see **Error! Reference source not found.** below). Contrary to Dillman's (2009) suggestion to lace sensitive demographic questions at the end of the survey, the demographic questions in this survey were placed at the beginning in order to capture the demographic make-up of those who might not complete the study.

Table 2. Survey Layout

Item	# of Questions	Question #	Type of Question	
Consent Form	n/a			
Demographic: Oncology Profession	4	1-4	Multiple choice	Demographic Questions
Demographic: Employment	2	5-6	Multiple choice	
Demographic: Personal	4	7-9	Multiple choice	
Random Assignment	n/a			
Vignette Part-1	n/a			Survey Questions
Qualitative Question	1	1	Open-ended	
Anticipatory Judgment	1	2	Ranking	
Vignette Part-2	n/a			
Diagnostic Judgment	1	3	Ranking	
Treatment Judgment	1	4	Ranking	
Situation Emotionality	6	5-10	Likert	
ERA PH and ERA MH	8	11-18	Likert	
ERA EOL	8	19-26	Likert	
ERA and Cancer	3	27-29	Likert	
Name & Address	n/a			

The vignette

The vignette consisted of a 2 (age) x 2 (sex) within subjects design used to examine expectations regarding aging based on the patient's age and sex. This design resulted in four vignettes as shown in Table 3 below. These vignettes are identical in every way except for the age and sex of the patient (see Appendix A for the 4 separate versions of the vignette).

Table 3. Matrix of Vignette Characteristics

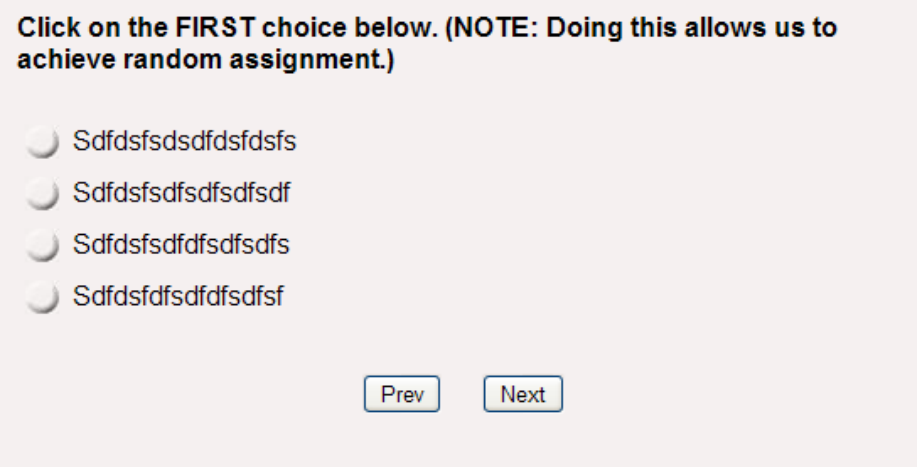
	Female	**Male**
78	Mary 78	James 78
38	Mary 38	James 38

Derivation of patient ages. Ages "38" and "78" were derived using the National Cancer Institute (NCI) definitions. The National Cancer Institute (NCI) defines young adults as those who fall between the ages of 20-39 (2011). Older adults are those adults age 65 and above and are divided into young-old (ages 65-75), old (ages 76-85) and old-old (ages 86+) (Miller et al., 2008). For this study, age 38 was selected to represent the younger patient because this age falls right inside the cusp between young (ages 20-39) and middle adulthood (ages 40-64), and is an age when cancer is more prevalent for young adults. Age 78 was selected to represent the older patient because this age falls within the middle range of older adults, between young-old and old-old, and it is a period of time when cancer prevalence rates hit their peak (SEER, 2011).

Derivation of patient names. The names "Mary" and "James" were derived by examining the most popular male and female names in the 1930s and 1960s as reported by the Social Security Administration (Social Security Online, 2010). Mary was ranked #1 and #2 and James was ranked #2 and #4, respectively.

Each respondent received one randomly assigned vignette delivered in two parts. Random assignment was achieved by having respondents click on the first of four randomly sorted letter string and pressing the next button (see Figure 13 below). Each of these letter strings were assigned to one of the four vignettes. This action was mandatory in order to proceed to the next page of the surveys.

Figure 13. Random Assignment Screen



After the first randomly displayed letter string was selected, the survey proceeded to Part-1 of the vignette associated with that letter string. Part-1 provided pre-assessment information about the patient and is used to measure anticipatory judgment. It includes the patient's age (38 or 78), sex (Mary or James), marital status (married), children (2), and diagnosis (lung cancer). Below is an example:

"*Suppose you are a social worker at a cancer center. Shortly after arriving today, you receive a page to meet with Mary. Mary is 78, married and has two children. She has recently been diagnosed with lung cancer."*

Part-2 represents the patient's assessment and consists of the same for each vignette. It includes the patient's current status (admitted into the hospital for shortness of breath and dehydration), treatment history (treatment is to begin next week), and patient's stated concerns (transportation, finances, impact of disease on family, feeling sad for the past few weeks, finds life less interesting, tires easily, trouble sleeping, lower appetite, and difficulty making decisions). Part-2 was adapted from a vignette of depressive symptoms previously used by Landreville et al (2006) and by Choi & Morrow-Howell (2007). An example is provided below:

"*You discover that Mary was admitted into the hospital last night for shortness of breath and dehydration. She is expected to start treatment next week. Moreover, she lives several miles from the cancer center and is concerned about transportation for treatment. She also worries about how the disease will affect her family and how the treatment will impact family finances. You find that Mary has been feeling sad for the past few weeks. Although usually very active, she currently finds life less interesting than before and tires more easily. She has trouble sleeping, has less appetite and finds it very difficult to make decisions. All of these symptoms make it hard for Mary to function in everyday life."*

Vignette assignments were monitored to ensure that one or more vignettes were not being assigned more frequently than other vignettes. When this happened, the vignette that had exceeded its sample size criteria was closed until all vignettes had met their sample size criteria. Once this was achieved, all vignettes were re-opened in the study.

Measures

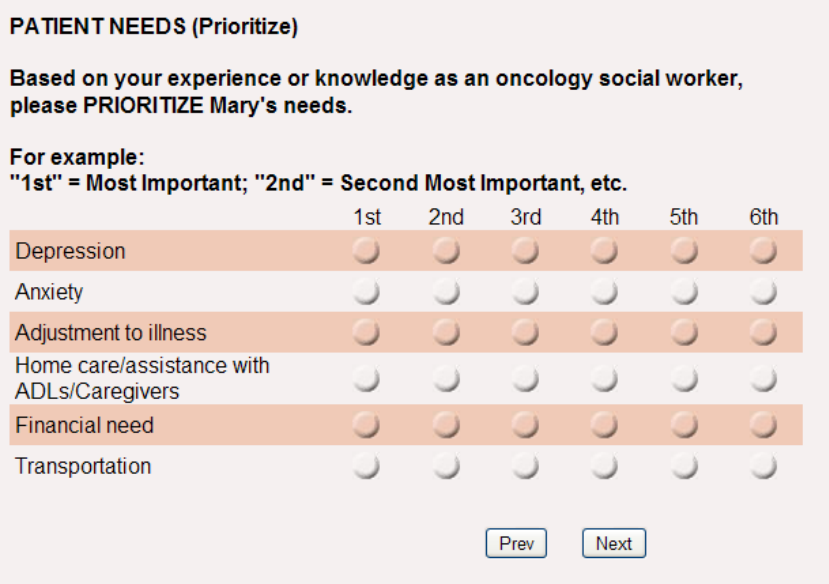
Data for this study was gathered using the Mental Health and Physical Health subscales from the ERA-12 (Sarkisian, Steers, Hays, & Mangione, 2005); eight questions regarding preparedness for end-of-life, three questions regarding aging with cancer; six questions regarding respondent's emotions; and three clinical judgment ranking questions. Professional and demographic variables were collected to describe the sample and serve as possible control variables. A copy of the survey is located in Appendix F.

Response variables (dependent variables). In this study, clinical judgment consists of three separate domains: anticipatory judgment, diagnostic judgment and treatment judgment. **Anticipatory judgment** represents oncology social workers' anticipation of patient needs based on minimal patient characteristics (i.e., age and sex).

Diagnostic judgment is the oncology social workers' identification of patients' needs after a patient assessment is completed. Finally, **treatment judgment** is the oncology social workers' prioritization of needs in the treatment plan. In this study, patient needs are defined as psychologial/emotional or functional.

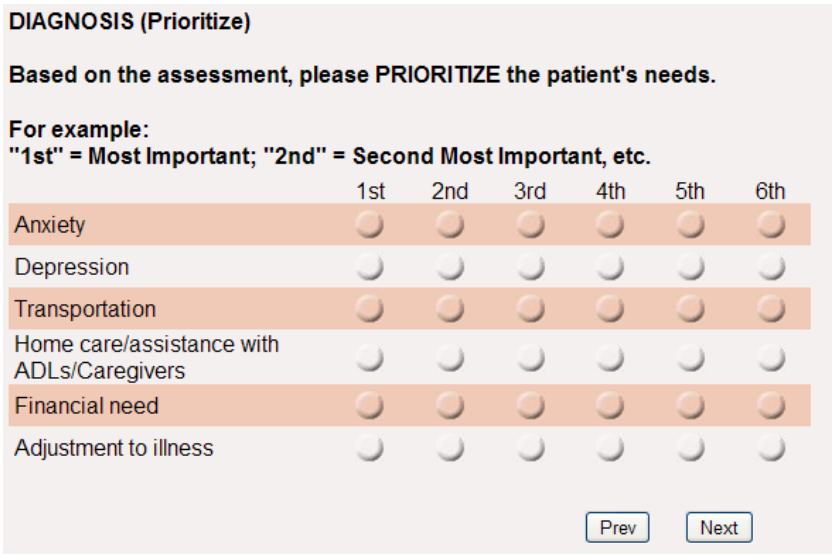
Anticipatory Judgment represents the oncology social workers' anticipation of patients' needs based on patient characteristics (i.e., age and sex) prior to completing an assessment. After reading Part-1 of the vignette, respondents were asked to prioritize the needs of the patient described in the vignette (see Figure 14 below).

Figure 14. Anticipatory Judgment Question



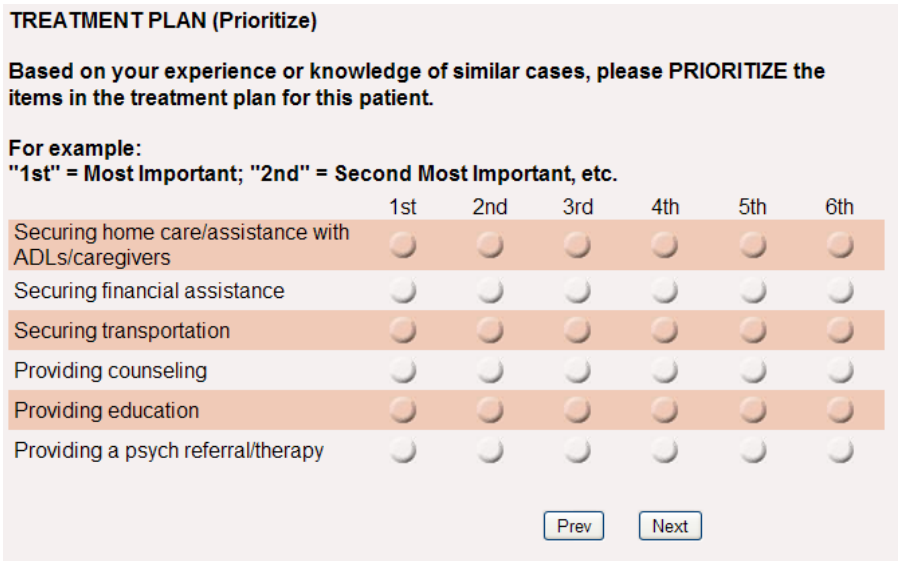
Diagnostic Judgment represents the oncology social workers' identification of patients' needs post-assessment. After reading Part-2 of the vignette, respondents were asked to prioritize the needs of the patient described in the vignette as illustrated in Figure 15 below.

Figure 15. Diagnostic Judgment Question



After ranking diagnostic needs in the previous question, respondents were asked to rank treatment items as illustrated in Figure 16 below. **Treatment Judgment** represents the oncology social workers' prioritization of items in the patient's treatment plan.

Figure 16. Treatment Judgment Questions



Attributes for these variables were derived from the initial grounded theory study and were triangulated with the diagnostic and treatment plan recommendations provided in the Institute of Medicine (IOM) Guidelines (Adler & Page, 2008, pp. 10, 30-31). The diagnostic items in the IOM document include distress, depression, anxiety, adjustment to illness, confusion, transportation, financial need, medical supplies, home care/assistance with ADLs, IDLs, chores, and caregivers. This list was reduced after comparing these items with the findings from the grounded theory study. "Distress" was removed because some definitions of this construct include anxiety; "Caregivers" was combined with "home care/assistance with ADLs;" "Medical supplies" was removed because the nurse case managers have responsibility for this need in some hospital settings; and "Confusion" was removed because this word can have more than one meaning, i.e., a disorientated mental state or having an unclear understanding of the subject matter. The remaining six items were categorized as either "psychological/emotional" or "functional" as indicated in Table 4 below.

Table 4. Psychological/Emotional and Functional Needs

Psychological/Emotional Needs	Functional Needs
• Depression	• Transportation
• Anxiety	• Financial need
• Adjustment to illness	• Home care/assistance with ADLs/Caregivers

This list of six needs was used to measure respondents' Anticipatory and Diagnostic Judgment by having respondents prioritize the list.

For treatment judgment, the IOM document included psych referral, therapy, counseling, support group/peer support group, family/caregiver education, financial assistance, transportation assistance, homecare/assistance with ADLs/IADLs, and medical supplies. After carefully reviewing this list, it was reduced by combining the "psych referral" with "therapy," removing "medical supplies" for the reasons stated above, and removing "support group/peer support group" because this construct could be collapsed into therapy. The remaining six items were categorized as either "psychological/emotional" or "functional" as listed in Table 5 below.

Table 5. Psychological/Emotional and Functional Treatments

Psychological/Emotional	Functional
• Providing a Psych Referral/Therapy • Providing Counseling • Providing Education	• Securing Transportation • Securing Financial Assistance • Securing Home Care/Assistance with ADLs/ Caregivers

In this research, social work definitions are assumed for therapy, referral, counseling, home care, activities of daily living (ADL), and caregiver as defined in the *Social Work Dictionary* (Barker, 2003). Therapy is defined as "a systematic process and activity designed to remedy, cure, or abate some disease, disability, or problems" (page 434). Referral is defined as "the social work process of directing a client to an agency, resources, or a professional known to provide a needed service" (page 363). Counseling is defined as "a procedure often used in clinical social work and other professions to guide individuals, families, groups, and communities by activities such as giving advise,

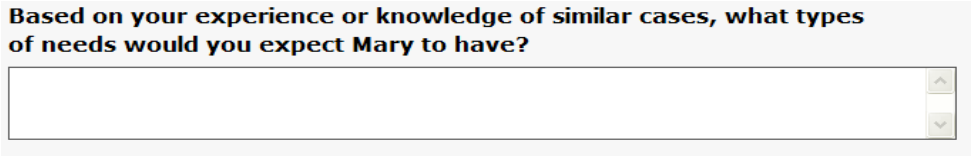
delineating alternatives, helping articulate goals, and providing needed information" (page 100). Home care is defined as "the provision of health care, homemaker, and social services to clients in their homes" (page 198). Activities of daily living are defined as "the performance of basic self- and family-care responsibilities necessary for independent living. Such activities include meal preparation, bathing, dressing, shopping, cleaning, handling financial matters, light home maintenance, and household chores." (page 5). A caregiver is defined as "one who provides for the physical, emotional and social needs of another, who often is dependent and cannot provide for his or her own needs" (page 61). This term can apply to relatives, close friends, or professionals who engage in caregiving. Education, transportation and financial assistance are not listed in the social work dictionary; standard dictionary definitions are assumed for these terms (Merriam-Webster, 2011). Education is the act of imparting knowledge. For oncology social workers, this knowledge would consist of information concerning the disease and medical facility. Transportation is a means of travel from one place to another, specifically to and from medical appointments and treatment. Financial assistance is help with monetary matters. For oncology social workers, this may include providing tangible resources, referrals for resources and/or developing strategies to attain resources.

For this survey question, respondents were asked to rank patient needs after reading Part-1 and then once more after reading Part-2 of the vignette. Ranking questions were selected over rating questions because ranking responses are generally sharper while rating responses tend to be skewed towards the positive end of the scale (Alwin & Krosnick, 1985). Calculation of the clinical judgment ranking questions were accomplished by computing an average score for the functional needs and an average score for the psychological/emotional needs, then subtracting the functional needs score

from the psychological/emotional needs score. A higher score denotes a higher prioritization of psychological/emotional needs in the treatment plan. A lower score denotes a higher prioritization of the functional needs in the treatment plan. The lists of needs were randomly sorted in order to minimize selection bias.

In addition to the ranking questions, anticipatory judgment was examined through respondents' responses to one open-ended question (see Figure 17 below). In this question, the respondents are immediately asked to state the types of needs they believe the patient to have after reading Part-1 of the vignette. This open-ended question provided an opportunity to gather respondents' first reaction to the patient in the vignette without providing them with any prompts, i.e., a list of emotional and functional needs. The respondents' responses were analyzed for the psychological/emotional and functional content in both lists above. These findings were categorized for Anticipatory, Diagnostic or Treatment Judgment content and used for triangulation purposes with the quantitative findings from the ranking questions.

Figure 17. Open-Ended Question after reading Vignette Part-1



Predictor variables (independent variables). There are two latent predictor variables in this study; Expectations Regarding Aging and Expectations Regarding Aging with Cancer. Expectations Regarding Aging consists of the ERA PH (Expectations Regarding Aging for Physical Health), ERA MH (Expectations Regarding Aging for Mental Health) and ERA EOL (Expectations Regarding Aging for Preparation of End-of-Life) subscales and represents the concept that specific aspects of human functioning are likely or certain in relation to the age of the individual.

ERA PH and ERA MH were measured with Physical Health and Mental Health subscales of the Expectations Regarding Aging 12 (ERA-12). The ERA-12 is a shortened version of the ERA-38 (Sarkisian et al., 2002). The shorter version was chosen for this study because it reduces participant burden while maintaining the reliability and validity of the original ERA-38. Previous studies have found that the ERA-38 has construct validity with age, activities of daily living, the SF-12 physical and mental health component scores and the Geriatric Depression Scale. The shorter ERA-12 has been found to have acceptable validity and reliability (Sarkisian et al., 2005). Internal consistency reliability for the ERA-12 and the ERA-12 when regressed on the ERA-38 items are reported in Table 6 below. The ERA EOL subscale was derived from the results of my previous grounded theory study triangulated with the work of Charlotte Bühler (1935), Else Frenkel-Brunswik (Frenkel, 1936) and Bernice Neugarten (1979; 1965). Reliability and validity was not known prior to using this instrument.

Table 6. Reliability of ERA-12 scale*

Scale (Combination of Scales):	*# Items*	*Internal Consistency Reliability (Cronbach's alpha)*	*R-squared when ERA-38 score regressed on these items*
Physical Health (PH)	4	0.79	0.70
Mental Health (MH)	4	0.73	0.69
Cognitive Function (CF)	4	0.81	0.57
(PH and MH)*	8	0.84	0.86
(PH, MH, and CF)	12	0.89	0.90

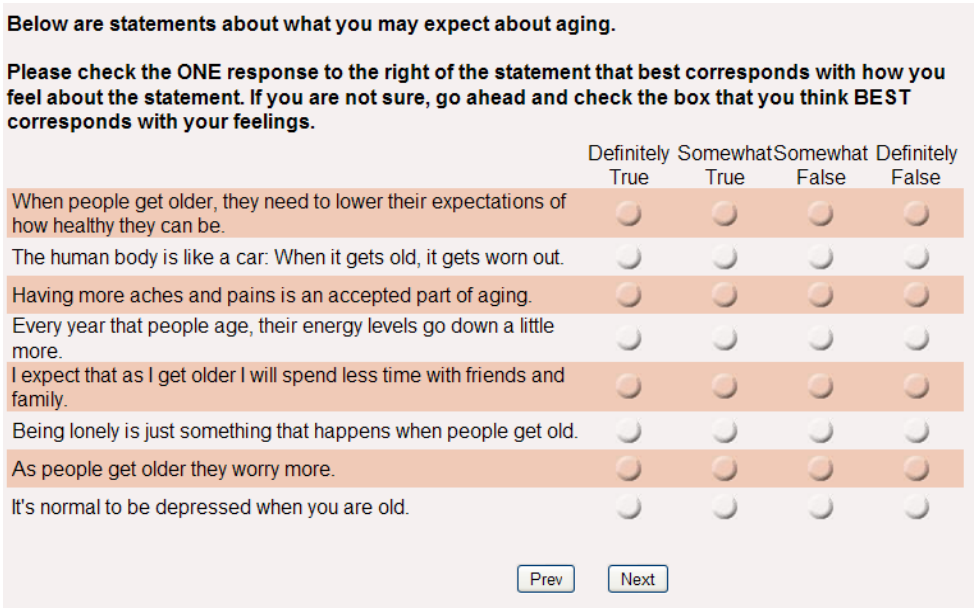
* public online data (Sarkisian, 2005, p. 2)

The **ERA PH** consists of the four items that collect data on the respondents' expectations regarding aging for physical health. For each statement, respondents select

one of four responses: "Definitely True" (= 1), "Somewhat True" (= 2), "Somewhat False" (= 3), or "Definitely False" (= 4). Scoring is in parentheses.

The **ERA MH** consists of the four items that collect data on the respondents' expectations regarding aging for mental health. For each statement, respondents select one of four responses: "Definitely True" (= 1), "Somewhat True" (= 2), "Somewhat False" (= 3), or "Definitely False" (= 4). Scoring is in parentheses. The ERA PH and ERA MH are listed in Figure 18 below.

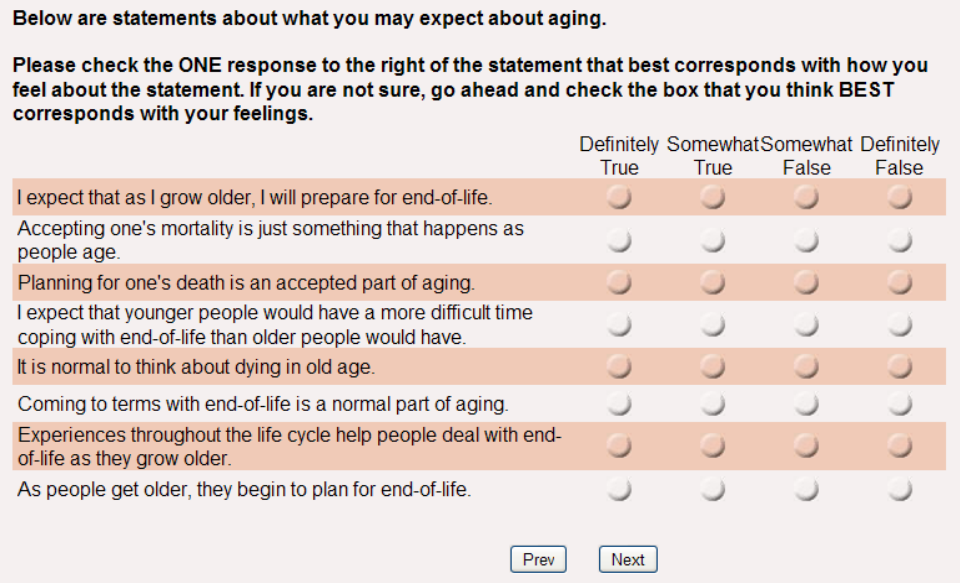
Figure 18. Questions 11-18, ERA-PH, ERA-MH



In addition to the physical and mental health domains included in the original ERA-12, I have appended one other aging-related domain that was derived from the results of my previous grounded theory study triangulated with the work of Charlotte Bühler (1935), Else Frenkel-Brunswik (Frenkel, 1936) and Bernice Neugarten (1979; 1965). The end-of-life domain refers to individuals' expectations of end-of-life as one ages. The **ERA EOL** consists eight items and is scored in a same manner as the ERA PH

and ERA MH: "Definitely True" (= 1), "Somewhat True" (= 2), "Somewhat False" (= 3), or "Definitely False" (= 4). These items are listed in Figure 19 below.

Figure 19. Questions 19-26, ERA-EOL



Below are statements about what you may expect about aging.

Please check the ONE response to the right of the statement that best corresponds with how you feel about the statement. If you are not sure, go ahead and check the box that you think BEST corresponds with your feelings.

	Definitely True	Somewhat True	Somewhat False	Definitely False
I expect that as I grow older, I will prepare for end-of-life.	○	○	○	○
Accepting one's mortality is just something that happens as people age.	○	○	○	○
Planning for one's death is an accepted part of aging.	○	○	○	○
I expect that younger people would have a more difficult time coping with end-of-life than older people would have.	○	○	○	○
It is normal to think about dying in old age.	○	○	○	○
Coming to terms with end-of-life is a normal part of aging.	○	○	○	○
Experiences throughout the life cycle help people deal with end-of-life as they grow older.	○	○	○	○
As people get older, they begin to plan for end-of-life.	○	○	○	○

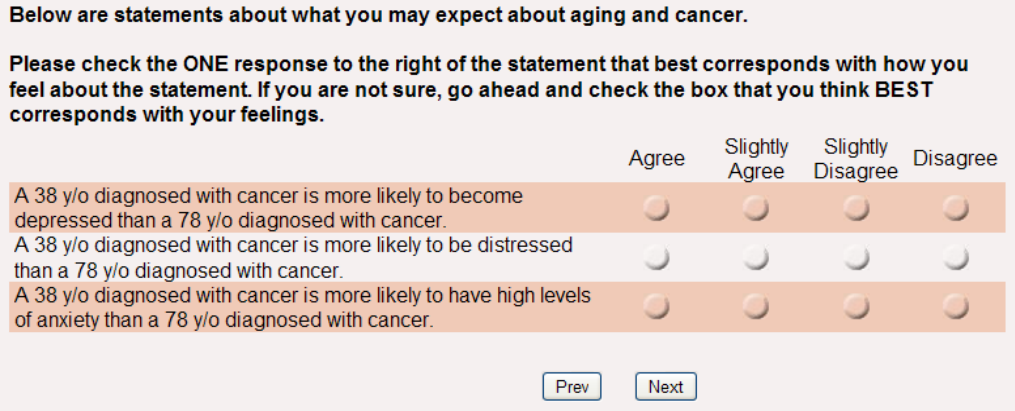
Prev Next

Sarkisian et al. (2005) provide a scoring methodology whereby the lower scores represent higher (i.e., greater or more) age expectations and higher scores represent few age expectations. Calculation of the ERA PH and ERA MH begins by summing the points for the four questions in the domain. Next, 4 is subtracted from this integer and the remaining value is multiplied by 8.34, to come up with a 0-100 range score. A similar scoring methodology is used for the ERA EOL subscale. However, because there are eight items instead of four item, 8 is subtracted for the integer and that sum is multiplied by 4.17.

Expectations Regarding Aging with Cancer is the second latent predictor variable and includes three items: a) Expectations Regarding Aging with Cancer for Depression (ERAC-Depression); b) Distress (ERAC-Distress) and c) Anxiety (ERAC-Anxiety). Each item is measured using a 4-point Likert-type scale with the following values, Agree

(= 1); Slightly Agree (= 2); Slightly Disagree (= 3); Disagree (= 4). A higher score means that the respondent does not expect the patient-age 38 to have greater psychological need than the patient age-78. These items are listed in Figure 20 below.

Figure 20. Questions 27-29, ERAC



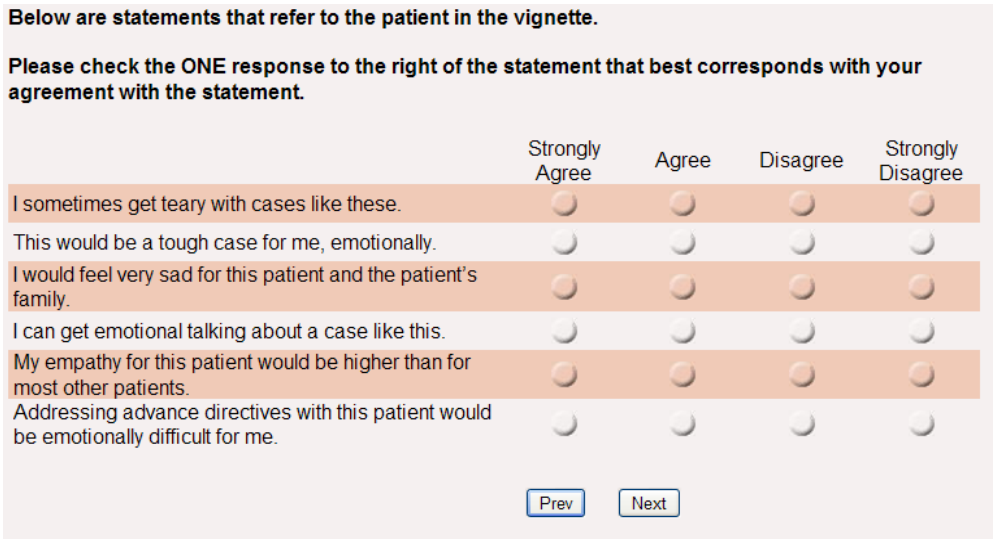
The validity and reliability of these ERAC items were unknown prior to the data collection which posed potential risk to study rigor.

Mediating variable (indirect variable). Mediating variables influence the relationship between the predictor and response variables (MacKinnon, 2008). In this case, **Emotions** (Situation Emotionality) was the mediating variable expected to influence the relationship between Expectations Regarding Aging and Clinical Judgment. This variable is defined as the level of emotion the oncology social worker has for the patient situation described in the vignette. Emotions such as these are generally measured through self-report, observation, autonomic nervous system measures, and central nervous system measures (Mauss & Robinson, 2009). However, the latter three measures are not feasible for this study.

There appeared to be no self-report scales tailored to this particular context or research question in the literature at the time of this research. Current validated self-

report scales on emotion tend to measure emotional traits "in general" rather than emotions tied to a specific situation, e.g., the Emotional Contagion Scale (Doherty, 1997), Interpersonal Reactivity Index (Davis, 1983), Emotional Empathy Scale (Mehrabian & Epstein, 1972), Compassion Fatigue Scale (Gentry, Baranowsky, & Dunning, 2002), and Affective Orientation Scale (Booth-Butterfield & Booth-Butterfield, 1990). Therefore, I used the data from my qualitative study, i.e., the words of the thoracic oncology social workers, to inform the development of six statements that would help understand social workers' emotions regarding the case described in the vignette. Respondents will respond to these statements using a 4-point Likert type scale as follows: Strongly Agree (= 1); Agree (= 2); Disagree (= 3); and Strongly Disagree (= 4). Emotions were scored by using the mean of the six questions. The higher the score, the greater the emotional reaction towards the patient situation. Questions on the Situational Emotionality scale are listed in Figure 21 below.

Figure 21. Situation Emotionality Scale: Questions 5-10



Demographic Items

Professional and personal demographic variables were collected to describe the sample and serve as possible control variables. Respondents were asked to select (1) their profession, (2) their license (3) if they were employed in the United States, (4) the number of years employed in oncology, (5) the type of position(s) they hold and (6) the type(s) of employment setting(s) in which they are employed from a list. These were followed by four personal demographic questions that included age (from a range), race/ethnicity (from a list), gender (female/male) and if the participant has ever been diagnosed with cancer (yes/no).

Validity

The ERA EOL subscale and the ERAC items were developed using data from my previous grounded theory study triangulated with findings from the oncology literature. The Situational Emotionality Scale items were developed directly from the language of the oncology social workers who participated in the grounded theory study. These measures had not been previously tested for validity and reliability. Prior to the release of the on-line survey, all items were given to eight members of the Memorial Sloan-Kettering Cancer Center Geriatric Research Group to examine for face validity, comprehensiveness, ambiguity and redundancy. Members of this group consisted of psychiatrists, psychologists, social workers, doctoral students and a chaplain with expertise in geriatric oncology. The survey was also given to a nurse who had experience with cancer for her review. These experts assured face validity of the survey and suggested removing a second open-ended question and being clearer with the instructions for the ranking questions. These changes were integrated into the survey. Once the survey was live, I periodically reviewed a random selection of participant data to ensure integrity of the data collection process.

Pilot test

Prior to its release to AOSW members, the on-line survey was piloted to eight oncology social workers who were identical to the target population except for their AOSW membership status. The purpose of the pilot was to examine the survey for ease of use, understandability, time to complete, biases, and if the measures were achieving their intended purpose. No changes were warranted in survey design. However, one ERA EOL items was changed from (a) to (b) as shown below, because the responses to item (a) were contrary to the responses of the other seven questions. A periodic review of the data as it was being collected proved the change to be a better fit.

(a) I expect that older people would have an easier time coping with end-of-life than younger people would have.

(b) I expect that younger people would have a more difficult time coping with end-of-life than older people would have.

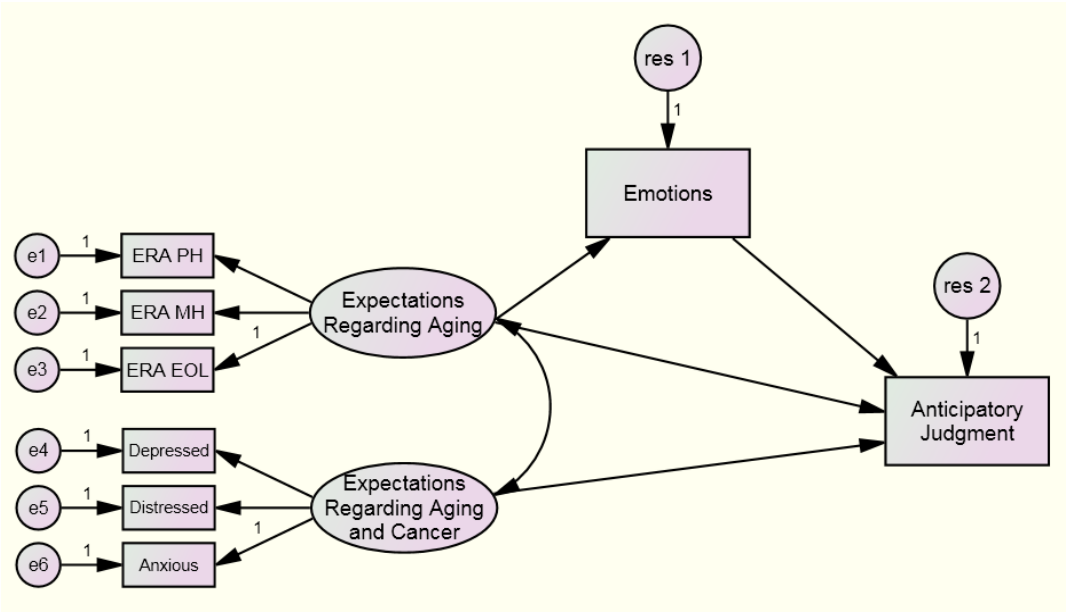
Data Analysis

Structural equation modeling (SEM) using Amos v.18 along with PASW v.18 for data management and bivariate analyses served as the primary data analysis methodology for this study. SEM is a multivariate analysis technique used for confirmatory analysis of hypotheses and theories (Byrne, 2010). In this study, SEM is used to test the three factors of Expectations Regarding Aging, the three factors of Expectations Regarding Aging with Cancer; the direct paths between Expectations Regarding Aging and Clinical Judgment; Expectations Regarding Aging with Cancer and Clinical Judgment; and test Emotions as an indirect path between Expectations Regarding Aging and Clinical Judgment.

The Model

Model specification. The model developed for this study follows the conceptual model derived from the grounded theory study and literature review. Prior to addressing the data analysis for each question, SEM requires that the hypothesized model be specified and identified (Bollen & Long, 1993). Model specification is the development of a hypothesized model structure informed by prior research and theory. In this study, the structure of the Model consists of a) two predictor variables (i.e., Expectations Regarding Aging and Expectations Regarding Aging with Cancer) each consisting of three indicators; b) an indirect/mediating variable (i.e., Emotions); and one of three outcome variable (i.e., Anticipatory Judgment, Diagnostic Judgment or Treatment Judgment). These are described in the measures section (see **Error! Reference source ot found.** for a depiction of the ERA Specified Model). The Model was run separately for each of the response variables, (i.e., Anticipatory, Diagnostic and Treatment Judgment) by age (i.e., 78 or 38), to assess for model fit. Below is a diagram of the Model with Anticipatory Judgment (see Figure 22).

Figure 22. The Specified Model shown with Anticipatory Judgment



Model identification. After specification, the model is checked for identification. This procedure establishes the one best value for each parameter whose value is unknown (Byrne, 2010). In this study, the t-Rule and Recursive Rule are used to determine if the model is identified. The aim of the t-Rule is to have an over-identified model that results in positive degrees of freedom, allowing the model to be falsified (Byrne, 2010). For this test, the number of data points in the model are calculated by ***[p (p+1) / 2]***, with p = observed variables. Thus, there are 8 * (8+1) / 2 = 36 data points. Next, the 19 distinct parameters are subtracted from this number, resulting in 17 degrees of freedom, achieving the t-Rule. The Recursive Rule states that a recursive model is always identified (Rigdon, 1995). Because this model is recursive, it meets the Recursive Rule. Once the model is specified and identified, the sample data can be run to answer the research questions.

Model variables. The model consists of 18 variables including 8 observed and 10 unobserved variables as described in Table 7 below.

Table 7. List of Observed and Unobserved Variables

Observed, endogenous variables	Unobserved, exogenous variables
• Emotions	• res1
• Anticipatory Judgment	• res2
• ERAEOL	• ERA
• ERAMH	• e3
• ERAPH	• e2
• ERAC-Anxiety	• e1
• ERAC-Distress	• ERAC
• ERAC-Depression	• e6
	• e5
	• e4

Expectations Regarding Aging and **Expectations Regarding Aging with Cancer** are independent, latent variables, each with three factors. Expectations Regarding Aging includes **ERA PH, ERA MH** and **ERA EOL**. It co-varies with Expectations Regarding Aging with Cancer that includes **ERAC-Depression, ERAC-Distress** and **ERAC-Anxiety**. The six factors are manifest and continuous variables.

Emotions is the indirect/mediating variable of the relationship between Expectations Regarding Aging and Clinical Judgment. It is continuous and endogenous.

Anticipatory Judgment, Diagnostic Judgment and **Treatment Judgment** are response variables and are continuous and endogenous. They are separate phases of Clinical Judgment and will be run separately in the model.

e1, e2, e3, e4, e5, e6, res1 and res2, represent the error and residual variables in this model. These are unobserved and exogenous.

Data Preparation and Screening

Missing data and outliers. Three hundred and thirty six surveys were returned yielding a 35% response rate. Prior to any analyses, the data were screened for missing items and outliers. Of the 336 surveys, 12 were not completed past the demographic section and two others did not meet the inclusion criteria. These 14 (4.2%) surveys were removed from the analysis resulting in a dataset of 322 surveys with no missing data. Outliers were assessed by calculating standard scores for each of the variables. Cases with standard scores above 3.29 were identified as outliers (Tabachnick & Fidell, 1996). Two outliers were identified, one in the "age 38" group and one in the "age 78" group. These were removed from the dataset and the analysis was re-run. Because their removal had no significant change on the results, the outliers were retained for the final analysis. The final sample size remained at 322.

Sample size. Structural equation modeling (SEM) was the primary statistical tool used to analyze this data. An adequate sample size is mandatory in order to achieve substantive results. Hoyle (1995) and Loehlin (2004) recommend a sample size of 200 to 400 cases. Mitchell (1993) recommends 10-20 cases per observed variable. Other scholars recommend a minimum ratio of five respondents for each estimated parameter for data that meet all modeling assumptions (Hair, Anderson, Tatham, & Black, 1998; Kline, 2005). However, for distributions that violate multivariate normality, a ratio of 15 respondents for each parameter is recommended (Hair et al., 1998).

The study achieved a sample size of 322 which meets Hoyle's (1995) and Loehlin's (2004) recommendation of 200 to 400 cases. Moreover, there are eight

observable variables in this research. A calculation of the case to observable variable yields a ratio of 40:1 exceeding Mitchell's recommendation of 10-20 cases per observed variable.

Multivariate normality. Multivariate normality is assumed in structural equation modeling, particularly when using AMOS software (Arbuckle, 2009). SEM requires the distribution of each variable to be normal for every combination of categories for all other variables. Violations of multivariate normality can lead to inflated or deflated chi square values (Kline, 2005). Checking for univariate normality by examining skewness and kurtosis of each variable is prerequisite to assessing for multivariate normality (DeCarlo, 1997). Garson (2007) recommends a skewness value between +2 and -2. Cases outside that value would be considered skewed. Kurtosis is of particular concern in SEM because it impacts tests of variances and covariances upon which SEM is based (Byrnes, 2010). Scholars vary on cut-off limits for kurtosis. Garson (2007) recommends a range of +3 and -3 while West, Finch & Curran (1995) recommends kurtosis values up to 7. The model was run with six groups: Anticipatory Judgment Age 78; Anticipatory Judgment Age 38; Diagnostic Judgment Age 78; Diagnostic Judgment Age 38; Treatment Judgment Age 78; and Treatment Judgment Age 38. Univariate normality was examined separately for each group. For Age 78 models, skew values ranged from -1.230 to +.338. For Age 38 models, skew values ranged from -1.297 to .203. Skew values for all models fell within Garson's recommended range of +2 and -2. Kurtosis values for Age 78 models ranged from -1.191 to +2.682 and for Age 38 models ranged from -1.150 to +2.430 falling within Garson's recommended range of +3 and -3 for kurtosis. The data are univariate normal. However, data that is univariate normal may not necessarily be multivariate normal (West et al., 1995). The critical ratio (C.R.) of the index of multivariate kurtosis provided in AMOS essentially represents Mardia's (1970,

1974) normalized estimate of multivariate kurtosis which provides an indication of multivariate normality (Byrne, 2010). C.R. values > 5.0 indicate distributions that are non-normal (Bentler, 2005). As indicated in Table 8 below, no C.R. value is above 5.0.

Table 8. C.R. Index for Multivariate Kurtosis

	Age 78		Age 38		Both Ages	
Variable	kurtosis	c.r.	kurtosis	c.r.	kurtosis	c.r.
Anticipatory Judgment	9.350	4.675	3.997	2.005	6.054	4.281
Diagnostic Judgment	9.648	4.824	5.283	2.650	7.512	5.312
Treatment Judgment	9.306	4.653	4.932	2.474	7.786	5.506

Multivariate outliers. A multivariate outlier is a case that has extreme scores on two or more variables (Kline, 2005). The squared Mahalanobis distance (D^2) detects multivariate outliers by "measuring the distance between the standard deviation units for one case and the central means for all variables" (Byrnes, 2010, p. 106). A case that has a D^2 value that stands out from the other D^2 values is generally indicative of an outlier. An examination of the D^2 values for each model indicates minimal evidence of multivariate outliers.

Homoscedasticity. Homoscedasticity requires that the standard deviation and variance of the error terms are constant for each group or category of predictor variables indicating that there is a uniform dispersion of data points about the regression line (Hair et al., 1998). A scatterplot matrix is used to visually inspect for homoscedasticity. If the band of points in a scatterplot is narrower at one end than at the other, it is an indicator that the homoscedacity assumption has been violated. None of the scatterplots in this

analysis showed any indication of heteroscedasticity satisfying the homoscedasticity requirement.

Multicollinearity. Multicollinearity occurs when two or more predictor variables are highly correlated. This statistical phenomenon can cause the relative strengths of variables to be unreliable (Kline, 2005). A correlation matrix was examined for pairwise multicollinearity. Correlations above .85 are generally considered a problem (Garson, 2007). The highest correlation was .769. Multicollinearity does not occur in this model.

Model Mediation (Indirect Effects)

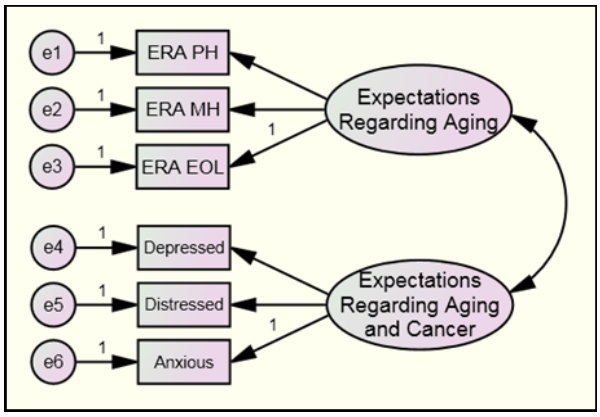
Mediation, known as "indirect effects" in structural equation modeling, clarifies the relationship between the predictor and response variables (MacKinnon, 2008). In this model, Expectations Regarding Aging is the predictor variable, Clinical Judgment is the response variable and Emotion is the mediating variable. Bootstrapping was used in this study to identify indirect effects. Bootstrapping is a re-sampling method that calculates confidence intervals by selecting random samples with replacement from a dataset and analyzing each of the samples in the same manner. The range of the sample estimates derived from the bootstrapping process is used to establish the uncertainty of the quantity that is being estimated. For this analysis, bootstrap estimates of the indirect effect and its confidence intervals were obtained by selecting the Bootstrapping option in AMOS software and examining the indirect effects output and confidence intervals (Kenny, 2009).

Measurement Invariance of Factor Model

SEM requires that the factor structure (see Figure 23 below) of the two age groups (Age-78 and Age-38) be equal. Multiple group analysis in AMOS was utilized with the sample data to examine whether different sets of path coefficients are invariant

(Arbuckle, 2009). Prior to starting this analysis, the overall sample size along with the equality of sample sizes were examined. The sample size was 161 for each group with a total sample size of 322 suggesting that the data for this study was ready for multiple

Figure 23. Factor Structure



group analysis. Multiple group analysis proceeded by selecting the manage groups option in AMOS, followed by naming the two groups and their separate path models. Data files were then selected for each group. This process created an unrestricted loadings model that allowed for different factor loadings for Age-78 and Age 38. A second model, "equal loadings," was then defined to impose equality constraints on the unrestricted loadings so that the unstandardized factor loadings were equal across the Age-78 and Age-38 groups. The data was then loaded onto the group models and the analysis was run. The results suggested that both the unrestricted loadings and equal loadings models fit the data well; unrestricted loadings model (Chi Square = 21.839, df(16), p = .148) and the equal loadings model (Chi Square = 21.839, df(16), p = .148). The results of the model comparison (Chi Square = 24.107, df(20), p = .238) suggest that imposing the additional restrictions of four equal factor loadings across the two patient age groups did not result in a statistically significant worsening of overall model fit indicating that the factor structure can be assumed to be equally reliable across groups..

CHAPTER 4

Results

The results section provides information on the demographic data as well as the findings from the analyses used to support or deny the hypotheses for this study.

Sample Characteristics

Description of Sample

As illustrated in Table 9 below, the majority of respondents were female (N=312, 96.6%) and identified as White/Euro-American (N=306, 95%). The remaining 5% identified as Hispanic/Latina/Chicana (N=6), Black/African American (N=2), Asian/ Asian American (N=1) Pacific Islander (N=2) Middle Eastern (N=1) and four preferred not to identify. Slightly more than half of the respondents were age 50 (51.6%) or above. Slightly over 10% have had a cancer diagnosis. A majority of the respondents worked in a hospital (68.9%) or clinic (21.4%); while 7.8% worked in a cancer agency; 1.6% at a cancer foundation; .6% were employed in a government agency; and .6% in an educational setting. Most respondents were licensed by their state at the advanced clinical social work level (65.2%) or master social work level (28.9%), while 5.9% were licensed at the bachelor social work level.

Table 9. Sample Characteristics by Age Groups and by Gender Groups

	Total N=322		Age 78 N=161		Age 38 N=161		Female N=163		Male N=158	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Age										
<30	17	(5.3%)	11	(6.8%)	6	(3.7%)	10	(6.1%)	7	(4.4%)
30-39	63	(19.6%)	38	(23.6%)	25	(15.5%)	32	(19.5%)	31	(19.6%)
40-49	76	(23.6%)	34	(21.1%)	42	(26.1%)	38	(23.2%)	38	(24.1%)
50-59	128	(39.8%)	61	(37.9%)	67	(41.6%)	67	(40.9%)	61	(38.6%)
60-64	36	(11.3%)	16	(9.9%)	20	(12.4%)	16	(9.8%)	20	(12.7%)
65-69	1	(0.2%)	1	(0.6%)	0	(0.0%)	0	(0.0%)	1	(0.6%)
70+	1	(0.2%)	0	(0.0%)	1	(0.6%)	1	(0.6%)	0	(0.0%)
Gender										
Female	312	(96.9%)	155	(96.3%)	157	(97.5%)	161	(98.2%)	151	(95.6%)
Male	10	(03.1%)	6	(3.7%)	4	(2.5%)	3	(1.8%)	7	(4.4%)
Race/Ethnicity										
White or Euro-American	306	(95.1%)	155	(96.3%)	151	(93.8%)	156	(95.1%)	150	(94.9%)
Hispanic/Latina/Chicana	6	(1.9%)	2	(1.2%)	4	(2.5%)	3	(1.8%)	3	(1.9%)
Black or African American	2	(0.6%)	0	(0.0%)	2	(1.2%)	0	(0.0%)	2	(1.3%)
Asian or Asian American	1	(0.3%)	0	(0.0%)	1	(0.6%)	1	(0.6%)	0	(0.0%)
Pacific Islander	2	(0.6%)	2	(1.2%)	0	(0.0%)	1	(0.6%)	1	(0.6%)
Middle Eastern	1	(0.3%)	1	(0.6%)	0	(0.0%)	1	(.0.6%)	0	(0.0%)
Prefer not to Identify	4	(1.2%)	1	(0.6%)	3	(1.9%)	2	(1.2%)	2	(1.3%)
Cancer diagnosis										
Yes	33	(10.2%)	21	(13.0%)	12	(7.5%)	13	(7.9%)	20	(12.7%)
No	289	(89.8%)	140	(87.0%)	149	(92.5%)	151	(92.1%)	138	(87.3%)
Oncology experience (years)										
<1	14	(4.3%)	4	(2.5%)	10	(6.2%)	2	(1.2%)	12	(7.8%)
1-3	56	(17.4%)	45	(28.0%)	11	(6.8%)	32	(19.5%)	24	(15.2%)
4-9	107	(33.2%)	58	(36.0%)	49	(30.4%)	52	(31.7%)	55	(34.8%)
10+	145	(45.1%)	54	(33.5%)	91	(56.5%)	78	(47.6%)	67	(42.4%)
License held #										
LBSW	19	(5.9%)	8	(5.0%)	11	(6.8%)	14	(8.5%)	5	(3.2%)
LMSW	93	(28.9%)	46	(28.6%)	47	(29.2%)	37	(22.6%)	46	(35.4%)
LCSW	210	(65.2%)	107	(66.4%)	103	(64.0%)	113	(68.9%)	97	(61.4%)
Practice setting										
Hospital	219	(68.0%)	113	(70.2%)	106	(65.8%)	95	(57.9%)	124	(78.5%)
Clinic	69	(21.4%)	32	(19.9%)	37	(23.0%)	47	(28.7%)	22	(13.9%)
Cancer Foundation	5	(1.6%)	2	(1.2%)	3	(1.9%)	3	(1.8%)	2	(1.3%)
Cancer Agency	25	(7.8%)	13	(8.1%)	12	(7.5%)	18	(11.0%)	7	(4.4%)
Educational Setting	2	(0.6%)	1	(0.6%)	1	(0.6%)	1	(0.6%)	1	(0.6%)
Government Agency	2	(0.6%)	0	(0.0%)	2	(1.2%)	0	(0.0%)	2	(1.3%)

Comparison of the Sample Groups

Respondents were randomly assigned one of four vignettes that differed by age and gender of patient only; content remained the same. These vignettes were identified as "Mary 78", "James 78", "Mary 38", and "James 38" throughout this document. Of the 322 valid surveys, 85 had been assigned "Mary 38"; 79 had been assigned "Mary 78"; 76 had been assigned "James 38"; and 82 were assigned to "James 78". Overall, 161 respondents had been assigned an "age 78" vignette and 161 respondents an "age 38" vignette. Grouped by gender, 164 respondents had been assigned a "female patient" vignette and 158 respondents were assigned a "male patient" vignette.

Comparison of Demographic Variables

To ensure that groups were equivalent demographically, a series of independent samples t-tests were run to compare the "age 78" and "age 38" groups, and the female and male groups on professional and personal demographic variables. No significant differences were found between the two age groups for respondent age, cancer diagnosis, license held or workplace setting. Significant differences were found, however, in the "number of years of oncology experience" between the two age groups. Thus, respondents assigned to patients "age 38" more often had 10+ years of oncology experience while respondents assigned to patients "age 78" more often had 1-3 years oncology experience $t(320) = 3.840$, $p < .001$. Similarly, no significant differences were found between the two gender groups for respondent age, cancer diagnosis, license held, or number of years oncology experience. Significant differences were found however, in "practice setting" between the two gender groups. Respondents assigned to "male patients" were significantly more likely to work in a hospital setting than respondents assigned to "female patients" who were significantly more likely to work in a clinic $t(165) = 3.561$, $p < .001$. A One-Way ANOVA was used to determine if there was an

association between “number of years oncology experience” and “practice setting” with any of the study variables. No significant differences were found. Therefore, this study did not need to control for participants’ number of years of oncology experience or practice setting.

Hypothesis 1

The means of the variables for each of the judgment phases were compared using One-Way ANOVA to respond to Hypothesis 1a, “Patient’s age influences clinical judgment during each of the three judgment phases (i.e., anticipatory judgment, diagnostic judgment and treatment judgment.)”

One-Way Analysis of Variance of the Clinical Judgment Variables

A One-Way Analysis of Variance compared differences in means of each of the six patient need variables (i.e., Depression, Anxiety, Adjustment, Transportation, Financial Assistance and Home Care) between the age groups for each judgment phase. Significant differences were found in all three judgment phases as described below.

The Anticipatory Judgment phase had the greatest number of significant differences. These were found in five of the six variables: Depression, Anxiety, Transportation, Finance and Home Care. Depression was prioritized significantly lower for Mary 78 ($M=2.47$) than for James 38 ($M=3.16$), $p<.05$. Likewise, anxiety was prioritized significantly lower for Mary 78 ($M=3.25$) than for James 38 ($M=4.47$), $p<.05$. Transportation was prioritized significantly higher Mary 78 ($M=3.44$) than both Mary 38 ($M=2.79$) and James 38 ($M=2.58$), $p<.05$. It was also prioritized higher for James 78 ($M=3.30$) than James 38 ($M=2.58$), $p<.05$. Financial assistance was prioritized significantly lower for Mary 78 ($M=3.44$) than for both Mary 38 ($M=4.29$) and James 38 ($M=4.67$), $p<.05$ as well as lower for James 78 ($M=3.85$) than for James 38 ($M=4.67$),

p<.05. Home care was prioritized significantly higher for Mary 78 (M=3.67) than for both Mary 38 (M=2.53) and James 38 (M=1.63). It was also prioritized much lower for James 38 (M=1.63) than James 78 (M=3.06) and Mary 38 (M=2.53), p<.05. Adjustment was prioritized highly across groups regardless of patient age and did not differ significantly between groups. Overall, emotional needs were prioritized significantly higher for James 38 (M=1.08) than for both Mary 78 (M= -.06) and James 78 (M=.19), p<.05. Hypothesis 1a is supported for depression, anxiety, transportation, financial assistance and home care/assistance with ADLs/caregivers.

Significant differences were found across groups in three of the six variables for the diagnostic judgment phase. These included adjustment, financial assistance and home care. Adjustment was prioritized significantly higher for Mary 78 (M= .392) than for Mary 38 (M= 3.02), p>.05. Need for financial assistance was prioritized significantly higher for James 38 (M= 4.11) and Mary 38 (M=3.85) than for Mary 78 (M=3.10), p<.05. Home care was prioritized significantly lower for Mary 38 (M=1.37) than for Mary 78 (M= 2.15) and James 78 (M=2.09), p< .05. Both transportation and depression were prioritized highly across groups regardless of patient age. Anxiety was prioritized equally low across groups. Overall, emotional needs are prioritized higher than functional needs across groups during the diagnostic judgment phase. Hypothesis 1b is supported for adjustment, finance and home care/assistance with ADLs/caregivers, but is not supported for depression, anxiety or transportation at the diagnostic judgment phase.

Significant differences were found in two of the six variables for the treatment judgment phase. Securing financial assistance was prioritized significantly higher for James 38 (M=4.39) than for both Mary 78 (M=3.68) and James 78 (M=2.63), p<.05. Securing home care/assistance with ADLs/caregivers was prioritized significantly higher for both Mary 78 (M= 2.89) and James 78 (M= 2.63) than for both Mary 38 (M=2.00)

and James 38 (M= 1.71), p<.05. Providing therapy/referral for psychological services was prioritized equally low between groups. Securing transportation was prioritized equally high across groups. Providing counseling as well as providing education were prioritized equally across groups. Overall, emotional needs are prioritized lower than functional needs across groups during the treatment judgment phase. Hypothesis 1c is supported for securing financial assistance and securing home care/assistance with ADLs/caregivers but not for providing therapy or referral for psychological services, counseling, education or transportation. The full results are provided in Table 10 below.

Table 10. One-Way ANOVA of Patient Need Variables Between Vignette Groups

	$\overline{X}$ *(sd)*			
	Mary 78 (n=79)	James 78 (n=82)	Mary 38 (n=85)	James 38 (n=76)
Anticipatory Judgment				
Depression	**2.47$_{a}$** *(1.42)*	2.68$_{ab}$ *(1.40)*	3.05$_{ab}$ *(1.42)*	**3.16$_{b}$** *(1.12)*
Anxiety	**3.25$_{a}$** *(1.55)*	3.84$_{ab}$ *(1.04)*	3.85$_{ab}$ *(1.74)*	**4.47$_{b}$** *(1.42)*
Adjustment	4.68$_{a}$ *(1.81)*	4.26$_{a}$ *(1.69)*	4.47$_{a}$ *(1.66)*	4.49$_{a}$ *(1.45)*
Transportation	**3.48$_{c}$** *(1.59)*	**3.30$_{bc}$** *(1.55)*	**2.79$_{ab}$** *(1.57)*	**2.58$_{a}$** *(1.42)*
Finance	**3.44$_{a}$** *(1.59)*	**3.85$_{ab}$** *(1.42)*	**4.29$_{bc}$** *(1.32)*	**4.67$_{c}$** *(1.12)*
Home care	**3.67$_{c}$** *(1.53)*	**3.06$_{bc}$** *(1.66)*	**2.53$_{b}$** *(1.53)*	**1.63$_{a}$** *(1.12)*
Overall[1]	**-.06$_{a}$** *(1.91)*	**.21$_{a}$** *(2.36)*	.59$_{ab}$ *(2.11)*	**1.10$_{b}$** *(1.50)*

Table 10, cont.

	$\overline{X}$ *(sd)*			
	Mary 78 (n=79)	James 78 (n=82)	Mary 38 (n=85)	James 38 (n=76)
Diagnostic Judgment				
Depression	4.34_{a} *(1.48)*	4.39_{a} *(1.42)*	4.58_{a} *(1.37)*	4.53_{a} *(1.49)*
Anxiety	2.92_{a} *(1.54)*	2.80_{a} *(1.48)*	2.95_{a} *(1.53)*	2.83_{a} *(1.26)*
Adjustment	**3.92 a** *(1.52)*	3.46 ab *(1.67)*	**3.02 b** *(1.52)*	3.54 ab *(1.28)*
Transportation	4.56_{a} *(1.16)*	4.70_{a} *(1.27)*	4.84_{a} *(1.16)*	4.64_{a} *(1.46)*
Finance	**3.10 a** *(1.29)*	3.56 ab *(1.47)*	**3.85 b** *(1.29)*	**4.11 b** *(1.27)*
Home care	**2.15 b** *(1.25)*	**2.09 b** *(1.48)*	1.79 ab *(1.25)*	**1.37 a** *(.85)*
Overall[1]	.46 a (1.85)	.08 a (1.64)	.03 a (1.53)	.28 a (1.40)
Treatment Judgment				
Therapy/Psych Refer	2.08_{a} *(1.35)*	2.27_{a} *(1.46)*	2.38_{a} *(1.44)*	2.45_{a} *(1.21)*
Counseling	4.00_{a} *(1.59)*	3.98_{a} *(1.56)*	3.78_{a} *(1.40)*	4.29_{a} *(1.34)*
Education	3.46_{a} *(1.46)*	3.79_{a} *(1.61)*	3.65_{a} *(1.52)*	3.21_{a} *(1.45)*
Transportation	4.95_{a} *(1.15)*	4.76_{a} *(1.25)*	5.08_{a} *(1.09)*	5.01_{a} *(1.23)*
Financial Assistance	**3.68 a** *(1.61)*	**3.57 a** *(1.47)*	4.07 ab *(1.46)*	**4.39 b** *(1.21)*

Table 10, cont.

	$\overline{X}$ *(sd)*			
	Mary 78 (n=79)	James 78 (n=82)	Mary 38 (n=85)	James 38 (n=76)
Home Care	**2.89** $_{b}$ *(1.58)*	**2.63** $_{b}$ *(1.59)*	**2.00** $_{a}$ *(1.26)*	**1.71** $_{a}$ *(1.02)*
Overall[1]	-.66 $_{a}$ *(1.71)*	-.32 $_{a}$ *(1.45)*	-.43 $_{a}$ *(1.59)*	-.44 $_{a}$ *(1.33)*

Significance < .05 is bolded. a, b, c indicate groups of non-significance, i.e., those in the same group are not significantly different from each other. [1] "overall" is a calculation of the sum mean of the three psychological/emotional items minus the sum mean three functional items.

As can be observed by examining Table 10 above, Anticipatory Judgment has the greatest number of age related differences in prioritization of patient needs, followed by Diagnostic Judgment and Treatment Judgment. Moreover, there appears to be substantial differences between the high ranking of Depression during the Diagnostic phase and the low ranking of Therapy/Psych Referral, the most appropriate treatment for Depression in the Treatment phase. A substantial difference also appears in the Overall judgment in the Diagnostic phase compared to the Overall judgment in the Treatment phase. A repeated measures analysis of variance was applied to these variables for each age group. The prioritization of Depression during the Diagnostic Judgment phase was significantly higher than Provide Psych Referral/Therapy in the Treatment Judgment phase for Age-78 [$F(1, 160) = 26.690$, $p < .001$, $eta^2 = .620$] and for Age-38 [$F(1, 160) = 239.516$, $p < .001$, $eta^2 = .600$]. Likewise, the Overall judgment during the Diagnostic Judgment phase was significantly higher than the Overall judgment during the Treatment Judgment phase for Age-78 [$F(1, 160) = 32.880$, $p < .001$, $eta^2 = .170$] and for Age-38 [$F(1, 160) = 27.780$, p

<.001, eta^2 = .148] indicating a significant gap in the treatment plan for the psychological/emotional needs of the patient.

The means of the Emotions variable were compared for each vignette using One-Way ANOVA to respond to Hypothesis 1b, "Patient's age influences oncology social workers' emotion towards the patient's situation".

One-Way Analysis of Variance of the Emotion Variable

A One-Way Analysis of Variance was calculated to detect differences in level of Emotion based on patient age. As shown in Table 11, level of emotion was significantly higher for "Mary-38" and "James-38" than for "James-78" and "Mary-78", $p < .05$ indicating an age effect.

Table 11. One-Way Analysis of Variance for Emotion Variable

	Mary 78 (n=79)	James 78 (n=81)	Mary 38 (n=85)	James 38 (n=75)
Emotion	**1.95_a**	**2.08_a**	**2.29_b**	**2.30_b**

Bold indicates p<.05

Hypothesis 2

The scores of the Expectations Regarding Aging (ERA) subscales and the Expectations Regarding Aging with Cancer (ERAC) items were examined in order to respond to Hypothesis 2, **"**Oncology social workers have expectations regarding aging with respect to physical health; mental health; preparedness for end-of-life; and cancer and depression, distress and anxiety." The analysis began by checking the factor

structure and reliability of the ERA subscales and the reliability of the ERAC items. This was followed by calculating and interpreting the ERA subscales and ERAC items.

Expectations Regarding Aging (ERA)

The ERA scale was examined for its underlying factor structure and item fit using factor analysis and by calculating Cronbach's alpha for reliability.

Factor analysis. The ERA Scale used in this study initially consisted of 16 items. Four of these items consisted of the ERA Physical Health subscale statements and another four items consisted of the Mental Health subscale statements of the standardized Expectations Regarding Aging scale (ERA12). The remaining eight items were derived from a previous grounded theory study. An initial factor analysis was run using PASW 18 Statistics, v 18.0.0 (IBM, Inc.) to analyze interrelationships among the 16 items and to explain these items in terms of their common underlying dimensions. Prior to running the factor analysis, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) was examined to assess the appropriateness of using factor analysis on the data. Values greater than .5 indicate the distribution is suitable for factor analysis. KMO in this analysis was calculated at .829 indicating a satisfactory level of intercorrelation among the items. Bartlett's test of sphericity was applied to test whether the correlation matrix is an identity matrix, which would indicate that the factor model is inappropriate. Bartlett's test of sphericity for the 16 items suggested a significant correlation between the items to perform the factor analysis, χ^2 (120) = 1426.984, p <.001.

The procedure began by running four analyses using Principal Axis Factoring and Maximum Likelihood extraction methods and oblique and orthogonal rotations. These methods produced similar solutions indicating that the factors were stable (Gorsuch, 1983). For this study, the Principal Axis Factoring extraction method was chosen

because the 16 items were slightly multivariate non-normal. Varimax was chosen as the rotation method.

A scree test was used to identify eigenvalues greater than one (Hair et al., 1998). This analysis identified three factors that explain 49.69% of the variance. After reviewing each item, one item, ERA 9, was dropped due to low communality (.174) and low loading (<.32) on each of the three factors.

The factor analysis, KMO and Bartlett's test of sphericity were re-run for the remaining 15 ERA items. KMO raised slightly to .828 with a Bartlett's test of sphericity at χ^2 (105) = 1368.255, p <.001 indicating that the distribution was appropriate for factor analysis. As illustrated in Table 12 below, the factor analysis resulted in a scale that loaded on three factors explaining 52.1% of the variance. Factor 1 explained 29.51% of the variance and consisted of the 7 items developed from the qualitative study (i.e., ERA-10, ERA-11, ERA-12, ERA-13, ERA-14, ERA-15 and ERA-16) which measured expectations regarding aging and preparation for end-of-life (ERA EOL). Factor 2 explained 14.61% of the variance and consisted of the 4 items (i.e., ERA-5, ERA-6, ERA-7 and ERA-8) of the Mental Health subscale of the standardized ERA12, which measured expectations regarding aging and mental health (ERA MH). Factor 3 explained 7.78% of the variance and consisted of the 4 items (i.e., ERA-1, ERA-2, ERA-3, ERA-4) from the Physical Health subscale of the standardized ERA12 scale which measured expectations regarding aging and physical health (ERA PH). One item, ERA-4, did cross load on all three factors. It was removed and the factor analysis re-run. However, the removal of Item-4 did not substantially add to the strength of the scale. Therefore, this item was retained in the analysis throughout the study.

Table 12. Results of Factor Analysis for 15-Item Expectations Regarding Aging Scale

Items		Factor Loadings		
		1 ERA End of Life	2 ERA Mental Health	3 ERA Physical Health
ERA-1.	When people get older, they need to lower their expectations of how healthy they can be.			.400*
ERA-2.	The human body is like a car: When it gets old, it gets worn out.			.796*
ERA-3.	Having more aches and pains is an accepted part of aging.			.476*
ERA-4.	Every year that people age, their energy levels go down a little more.			.312*
ERA-5.	I expect that as I get older I will spend less time with friends and family.		.595*	
ERA-6.	Being lonely is just something that happens when people get old.		.801*	
ERA-7.	As people get older they worry more.		.569*	
ERA-8.	It's normal to be depressed when you are old.		.674*	
ERA-10.	Accepting one's mortality is just something that happens as people age.	.576*		
ERA-11.	Planning for one's death is an accepted part of aging.	.669*		
ERA-12.	I expect that younger people would have a more difficult time coping with end-of-life than older people would have.	.544*		
ERA-13.	It is normal to think about dying in old age.	.545*		
ERA-14.	Coming to terms with end-of-life is a normal part of aging.	.720*		
ERA-15.	Experiences throughout the life cycle help people deal with end-of-life as they grow older.	.532*		
ERA-16.	As people get older, they being to plan for end-of-life.	.592*		
Cumm %		29.844	44.371	52.147

Extraction Method: Principle Axis Factoring; Rotation Method: Varimax with Kaiser Normalization (Rotation converged in 5 iterations). Note: Factors > .3 were selected as an inclusion criteria and are indicated with * for each factor.

The three factors were intercorrelated and positively related. A moderate correlation was found between the ERA MH and ERA PH factors (r=.495, p <001, N=322) and between the ERA EOL and ERA PH factors (r=.346, p <.001, N=322). A weak correlation was found between the ERA EOL and ERA MH factors (r-.271, p<.001, N-322).

Reliability. Cronbach's alpha is calculated to test for internal consistency. A Cronbach alpha with a score of .70 and above is judged to be adequate. This analysis was first run for the ERA PH and ERA MH factors; which are the subscales from the standardized ERA12 separately and combined. The Cronbach alpha for the ERA PH was .71, for the ERA MH was .76 and for these two subscales combined was.79, all meeting the criteria for adequacy. Table 13 below presents a comparison of these alphas with those achieved from Sarkisian's study.

Table 13. Comparison of Cronbach's Alpha for ERA Subscales

Scale/ combination of scales	#Items	Sarkisian et al. Original study* **(α)**	This study **(α)**
Physical Health (PH)	4	0.79	0.71
Mental Health (MH)	4	0.73	0.76
(PH and MH)	8	0.84	0.79
End-of-Life (EOL)	7		0.80
(PH, MH, and EOL)	15		0.83

* Sarkisian (2005, p. 2)

A Cronbach alpha was then run for the 7-item ERA EOL subscale and for the ERA 15-item scale which consisted of all three subscales. The Cronbach alpha for the 7-item ERA EOL was .80 and for the 15-item ERA was .83, both meeting the criteria for

adequacy. The ERA 15-item scale has a mean of 38.82 (SD= 5.704, N=322). The ERA EOL subscale produced a mean of 14.63 (SD= 3.322, N=322); the ERA MH subscale produced a mean of 13.68 (SD= 2.096, N=322); and the ERA PH subscale produced a mean of 10.53 (SD= 2.003, N=322). Item statistics are reported in Table 14 below.

Table 14. Scale Statistics for ERA Items

N=322	Item Mean	Standard Deviation	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	**(α)** if Item Deleted*
ERA-1	3.00	.767	35.84	27.918	.425	.306	.817
ERA-2	2.43	.717	36.41	28.708	.346	.290	.822
ERA-3	2.35	.696	36.49	28.600	.386	.278	.819
ERA-4	2.74	.659	36.10	27.753	.542	.319	.809
ERA-5	3.50	.662	35.34	28.663	.403	.313	.818
ERA-6	3.59	.627	35.25	28.465	.463	.495	.814
ERA-7	2.99	.809	35.85	27.265	.478	.335	.813
ERA-8	3.61	.628	35.23	28.590	.442	.415	.815
ERA-10	2.46	.797	36.38	27.383	.472	.389	.813
ERA-11	2.23	.831	36.61	27.211	.468	.446	.814
ERA-12	2.03	.657	36.81	28.507	.429	.332	.816
ERA-13	1.81	.615	37.03	28.491	.470	.341	.814
ERA-14	2.08	.743	36.76	27.508	.500	.463	.811
ERA-15	1.76	.612	37.08	29.218	.357	.323	.820
ERA-16	2.26	.612	36.58	28.375	.492	.344	.813

*Deletion of any of the 15-items above does not improve Cronbach alpha for the overall scale

Expectations Regarding Aging with Cancer (ERAC)

Reliability. Cronbach's alpha was calculated to measure internal consistency of the three Expectations Regarding Aging with Cancer (ERAC) statements for mental health. The Cronbach alpha for these three items was .87 which meets the criteria for adequacy. These items were intercorrelated and positively related. ERAC-Depression was highly correlated with both ERAC-Distress (r= .702, p<.001, N=322) and ERAC-Anxiety (r= .627, p<.001, N=322). ERAC-Distress was highly correlated with ERAC-Anxiety (r= .758, p<.001, N=322). They have a scale mean of 8.11 (SD=2.651, N=322). Table 15 below shows the item and scale statistics for these three items.

Table 15. Item and Scale Statistics for ERAC

N=322	Mean	SD	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	**(α)** if Item Deleted*
ERAC Depression	2.82	1.000	5.28	3.412	.709	.514	.862
ERAC Distress	2.60	.978	5.50	3.299	.809	.659	.771
ERAC Anxiety	2.68	.992	5.43	3.329	.750	.592	.825

*Deletion of any of the 3 items would not improve Cronbach alpha for the overall scale

Scoring of ERA and ERAC

In order to respond to Hypothesis 2, descriptive measures and scale scores of the ERA PH, ERA MH, and ERA EOL were calculated to determine if oncology social workers as a group had expectations regarding physical health, mental health and/or preparation with end-of-life as people age. The descriptive measures were derived from

the item scoring, i.e., 1 (Definitely True) to 4 (Definitely False) and include the mean, median, standard deviation and percentage of respondents who agreed with the item. The scale score is calculation provided by Sarkisian et al. (2005) and ranges from 0 to 100; with 0 interpreted as low (greater) expectations regarding aging, and 100 as high (fewer) expectations regarding aging.

ERA PH. Expectations Regarding Aging for Physical Health was derived from the four-item ERA PH subscale of the ERA-12. As shown in Table 16 below, the scale score for the ERA PH subscale was calculated to be 54.35; close to the middle of the scale. Thus, as a whole, respondents expectations regarding aging for physical health are moderately high with 53.6% of respondents disagreeing with the item and 46.3% agreeing. The descriptive measures and scale score for each item of ERA PH indicate that oncology social workers tend to agree with ERA-2 "The human body is like a car: When it gets old, it gets worn out," and ERA-3 "Having more aches and pains is an accepted part of aging." However, they tend to disagree with ERA-1 "When people get older, they need to lower their expectations of how healthy they can be" and ERA-4 "Every year that people age, their energy levels go down a little more."

A review of these four items show that ERA-1 (.400) and ERA-4 (.312) have low factor loadings, whereas ERA-2 (.796) and ERA-3 (.496) do not. This may indicate inconsistent wording of ERA-1 and ERA-4 compared to ERA-2 and ERA-3 which may cause the marked difference in response among the items.

Table 16. Item and Total Scoring for ERA Subscale

	Mean	Median	SD	% Agree	Scale Score
ERA-1	3.00	3.00	.76	26.1%	66.77
ERA-2	2.43	2.00	.71	60.9%	47.72
ERA-3	2.35	2.00	.69	65.7%	45.03
ERA-4	2.74	3.00	.65	32.3%	58.07
ERA PH	2.63	2.50	.50	46.3%	54.40

Based on the criteria set for this research study, Hypothesis 2(a) asserting that oncology social workers in general have lower expectations regarding aging and physical health is not supported for ERA PH.

ERA MH. Respondents' Expectations Regarding Aging for Mental Health was derived from the four-item ERA MH subscale of the ERA-12. As illustrated in Table 17 below, the scale score for the ERA MH subscale was 80.67; close to the higher end of the scale. Thus, on average, respondents have higher expectations regarding aging for mental health. The descriptive statistics for individual items indicate that respondents, as a whole, disagree with ERA-5 "I expect that as I get older I will spend less time with friends and family," ERA-6 "Being lonely is just something that happens when people get old," and ERA-8 "It's normal to be depressed when you are old," and somewhat disagree with ERA-7 "As people get older they worry more."

Table 17. Item and Total Scoring for ERA MH Subscale

	Mean	Median	SD	% Agree	Scale Score
ERA-5	3.50	4.00	.65	7.5%	83.23
ERA-6	3.59	4.00	.62	5.6%	86.23
ERA-7	2.99	3.00	.80	28.3%	66.67
ERA-8	3.61	4.00	.62	5.9%	86.96
ERA MH	3.42	3.50	.52	11.83%	80.67

Based on the criteria set forth for this study, Hypothesis 1(b) asserting that oncology social workers in general will have lower expectations regarding aging for depression, anxiety and loneliness is not supported by the ERA MH scale.

ERA EOL. Respondents' age expectations regarding end-of-life was derived from the seven-item ERA EOL subscale. As illustrated in Table 18, the score for the ERA EOL subscale was 36.29. Thus, on average, respondents have lower expectations regarding aging for preparation of end-of-life. The descriptive measures for individual items indicate that respondents agree with ERA-10 "Accepting one's mortality is just something that happens as people age," ERA-11 "Planning for one's death is an accepted part of aging," ERA-12 "I expect that younger people would have a more difficult time coping with end-of-life than older people would have," ERA-13 "It is normal to think about dying in old age," ERA-14 "Coming to terms with end-of-life is a normal part of aging," ERA-15 "Experiences throughout the life cycle help people deal with end-of-life as they grow older," and ERA-16 "As people get older, they being to plan for end-of-life."

Table 18. Item and Total Scoring for ERA EOL Subscale

	Mean	Median	SD	% Agree	Scale Score
ERA-10	2.46	2.00	2	57.1%	48.66
ERA-11	2.23	2.00	2	64.9%	41.10
ERA-12	2.03	2.00	2	81.4%	34.37
ERA-13	1.81	2.00	2	91.9%	27.02
ERA-14	2.08	2.00	2	74.5%	35.92
ERA-15	1.76	2.00	2	92.2%	25.57
ERA-16	2.26	2.00	2	68.6%	42.03
ERA EOL	2.09	2.00	.47	75.8%	36.35

Based on the criteria set forth in this study, Hypothesis 1(c) asserting that oncology social workers will have lower expectations regarding aging for preparation of end-of-life is supported.

For informational purposes, the descriptive measures and scale score for the removed item, ERA-9, is presented in Table 19 below. This item has a lower mean and scale score than the seven remaining items in the ERA EOL subscale. More than 94.1% of oncology social workers agree with the item, “I suspect that I will plan for end-of-life as I grow older.”

Table 19. Item Scoring for ERA-9, the Eliminated Item

	Mean	Median	SD	% Agree	Scale Score
ERA-9	1.58	1.00	.67	94.1%	19.15

ERAC. Respondents' expectations regarding aging with cancer was derived individually for each of three items. As illustrated in Table 20 below, the scale score for ERAC Distress, "A 38 y/o diagnosed with cancer is more likely to be distressed than a 78 y/o diagnosed with cancer," was 53.33; close to the middle of the scale, with slightly more than half of the respondents (53.1%) agreeing with the item. For ERAC Anxiety, "A 38 y/o diagnosed with cancer is more likely to become depressed than a 78 y/o diagnosed with cancer," the scale score was 56.00 with slightly under one half of the oncology social workers (47.2%) agreeing with this item. Finally, the scale score for ERAC Depression, "A 38 y/o diagnosed with cancer is more likely to have high levels of anxiety than a 78 y/o diagnosed with cancer" was 60.33 with 41.6% agreeing with this item.

Table 20. Descriptive Data for ERAC Items

	Mean	Median	SD	% Agree	Scale Score
ERAC Depression	2.81	3.00	1.00	41.6%	60.33
ERAC Distress	2.60	2.00	.98	53.1%	53.33
ERAC Anxiety	2.68	3.00	.99	47.2%	56.00

Based on the criteria set forth in this study, Hypothesis 1(d) is not supported for expectations regarding aging with cancer for depression, distress and/or anxiety.

Hypothesis 3

Structural equation modeling of the predictor, response and mediator variables was used to address Hypothesis 3, "oncology social workers' expectations regarding aging predict their clinical judgment during the anticipatory, diagnostic and treatment judgment phases of patient care."

Structural Equation Modeling

Using theory and prior research, a path model was developed with AMOS structural equation modeling software to test if oncology social workers' clinical judgment is predicted by their expectations regarding aging and emotion. This model was replicated three times in order to test the three phases of clinical judgment separately. The data was then split by age and run separately for each judgment model. This resulted in two iterations of each judgment model, i.e. Anticipatory Judgment-Age 78; Anticipatory Judgment-Age 38; Diagnostic Judgment-Age 78; Diagnostic Judgment-Age 38; Treatment Judgment-Age 78 and Treatment Judgment-Age 38, as discussed later in the in this section.

Model Fit Indexes

SEM assesses for model fit by comparing the expected model with actual data. If the model does not fit well, it must be re-specified. Model re-specification is necessary when the theoretical model does not fit the sample data. Misspecification of the model was determined by examining standardized residuals and modification indices of each iteration of the models. Standardized residuals represent the estimate of the distance between the observed residuals and the residuals of a perfect model. Estimates that are greater than the cutoff point of 2.58, are considered large and indicate a poor fit. The analyses of each iteration of the model found none of the estimates to be greater than

2.58. Additionally, the modification indexes were very small indicating that the model did not need to be re-specified.

A fit index provides the researcher with information on how well the model fits the data. There are a number of fit indexes for SEM allowing for cross-validation of model fit. AMOS provides several of these. This study will provide the commonly reported CMIN, P, χ2/df, SRMR, GFI, CFI, RMSEA and PCLOSE index for each iteration of the model. The acceptance levels and descriptions of these indices are listed below in Table 21 below.

Table 21. Model Fit Criteria and Acceptable Fit Interpretation

Model Index	Acceptable Level	Description
CMIN (χ^2)	Lower CMIN is better; P is not significant	This is a model chi-square statistic. It provides information that the sample and hypothesized models covariance structure are not significantly different. (Byrne, 2010)
P (*p* value)	>.05	P provides a test of exact fit. Values closer to 1.0 are a closer fit.
χ^2 /df (normed Chi-square)	< 2.0	Equals the chi-square index divided by the degrees of freedom and is less sensitive to sample size. (Ullman, 2001)
SRMR (Standardized Root Mean Square Residual)	<.05 is a good fit <.08 is acceptable	A measure of the difference between the residuals of the sample covariance matrix and the hypothesized covariance model (Byrne, 2010)
GFI (Goodness of Fit Index)	>.90	Represents the percent of measured covariance explained by the model (Tanaka, 1993).

Table 21, cont.

Model Index	Acceptable Level	Description
CFI (Comparative Fit Index)	**>.90**	**Compares the fit of the existing model with a baseline model (Kline, 2005)**
RMSEA (Root-mean-square error of approximation)	.05 or less is close fit .05 - .08 is reasonable fit .08 - .10 is mediocre fit .10 + is poor fit	Represents the differences between the observed and predicted covariance matrix (Brown & Cudeck, 1993; Hu & Bentler, 1999)
PCLOSE (*p* value)	>.50	PCLOSE provides a test of close fit. If the P value is greater than .50, then the fit of the model is close. (Byrne, 2010)

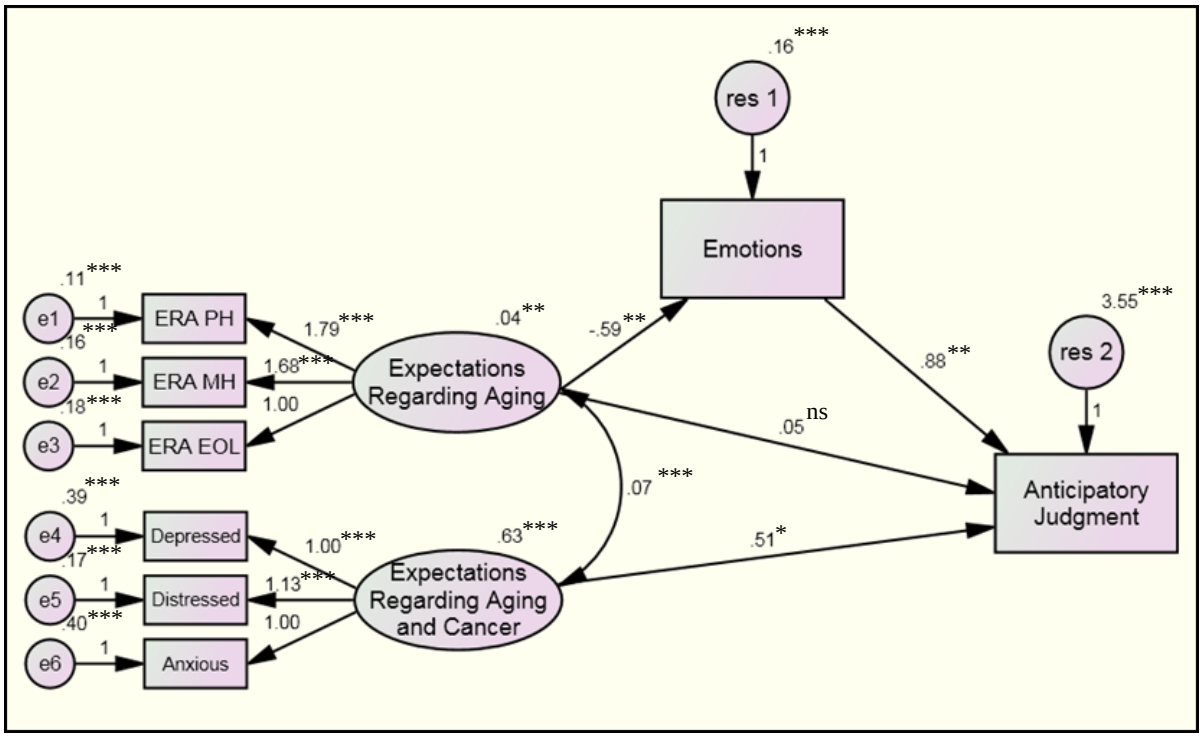
As shown in Table 22 below, the path analysis using structural equation modeling confirmed the relationships among practitioner's expectations regarding aging, emotions, and the prioritization of patient needs for older patients. Every index criteria was met for the Age-78 data indicating good model fit. Anticipatory Judgment had the best fit, followed by Diagnostic Judgment then Treatment Judgment. The model fit for the Age-38 is good for Diagnostic Judgment but poor for Anticipatory and Treatment Judgment. The results of the model estimates and a description of each follow.

Table 22. Results of Fit Indices by Age and Full Dataset

	χ2	**p**	**χ2/df**	**SRMR**	**GFI**	**CFI**	**RMSEA**	**PCLOSE**
df = 17		*> .05*		*< .08*	*Close to 1.0*	*> .95*	*.05 or less*	*> .50*
Anticipatory Judgment								
Age 78	9.417	.926	.554	.0370	.986	1.000	.000	.989
Age 38	28.787	.037	1.693	.0630	.959	.970	.066	.242
Full	21.960	.186	1.292	.0424	.983	.993	.030	.821
Diagnostic Judgment								
Age 78	11.310	.840	.665	.0377	.983	1.000	.000	.970
Age 38	25.336	.087	1.490	.0636	.965	.979	.055	.384
Full	20.938	.229	1.232	.0419	.983	.995	.027	.854
Treatment Judgment								
Age 78	14.238	.650	.838	.0413	.954	1.000	.000	.906
Age 38	27.421	.052	1.613	.0625	.962	.974	.062	.293
Full	23.905	.122	1.406	.0436	.981	.990	.036	.750

[(a)] Model fits data well, [(b)] model fit is poor

Figure 24. Anticipatory Judgment Age-78

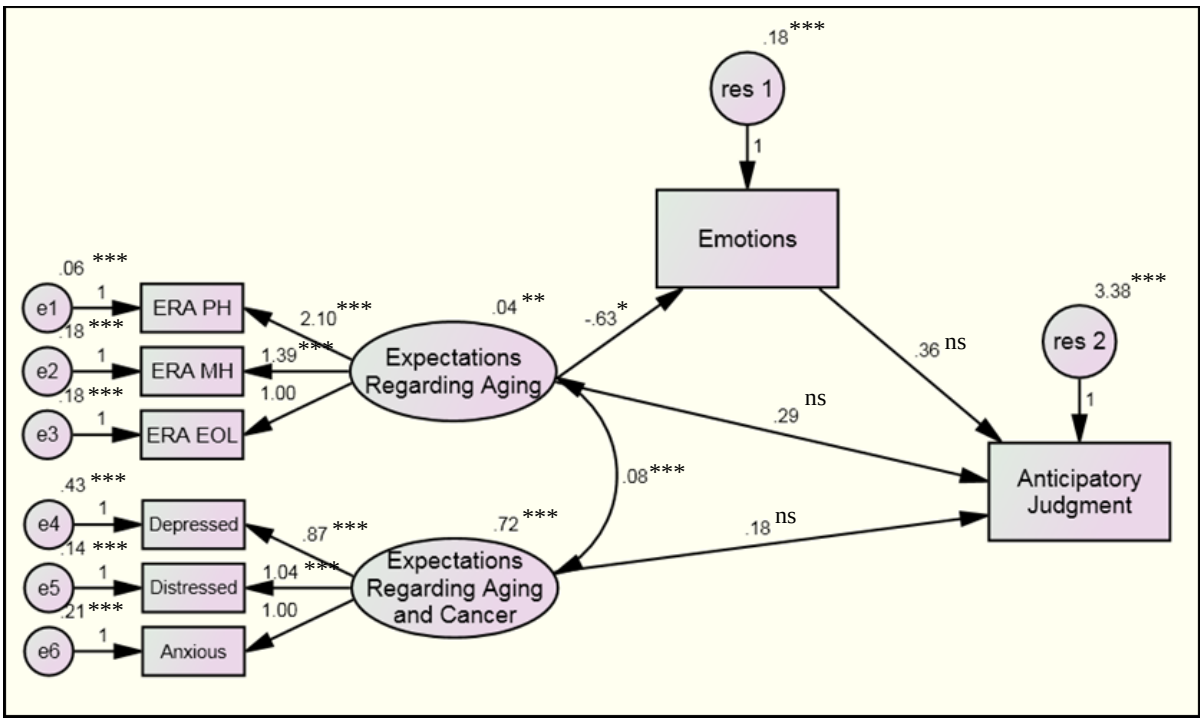


***p >.001, **p > .01, *p > .05, ns = not significant

Anticipatory Judgment Age-78

This model captures the path analysis of the latent variables Expectations Regarding Aging and Expectations Regarding Aging with Cancer, with Emotions and Anticipatory Judgment for Age-38. The fit indices suggest that this model fits well with the Age-78 dataset. As noted in Figure 24 above, there is a significant positive path between Expectations Regarding Aging with Cancer (ERAC) and Anticipatory Judgment (AJ); when ERAC goes up by 1, AJ goes up by .51. There is also a significant positive path between Emotions and AJ; when Emotions goes up by 1, AJ goes up by .88. There is a non-significant path between Expectations Regarding Aging (ERA) and AJ. However, there is a negative path between ERA and Emotions; when ERA goes up by 1, Emotions goes down by 0.591.

Figure 25. Anticipatory Judgment Age-38

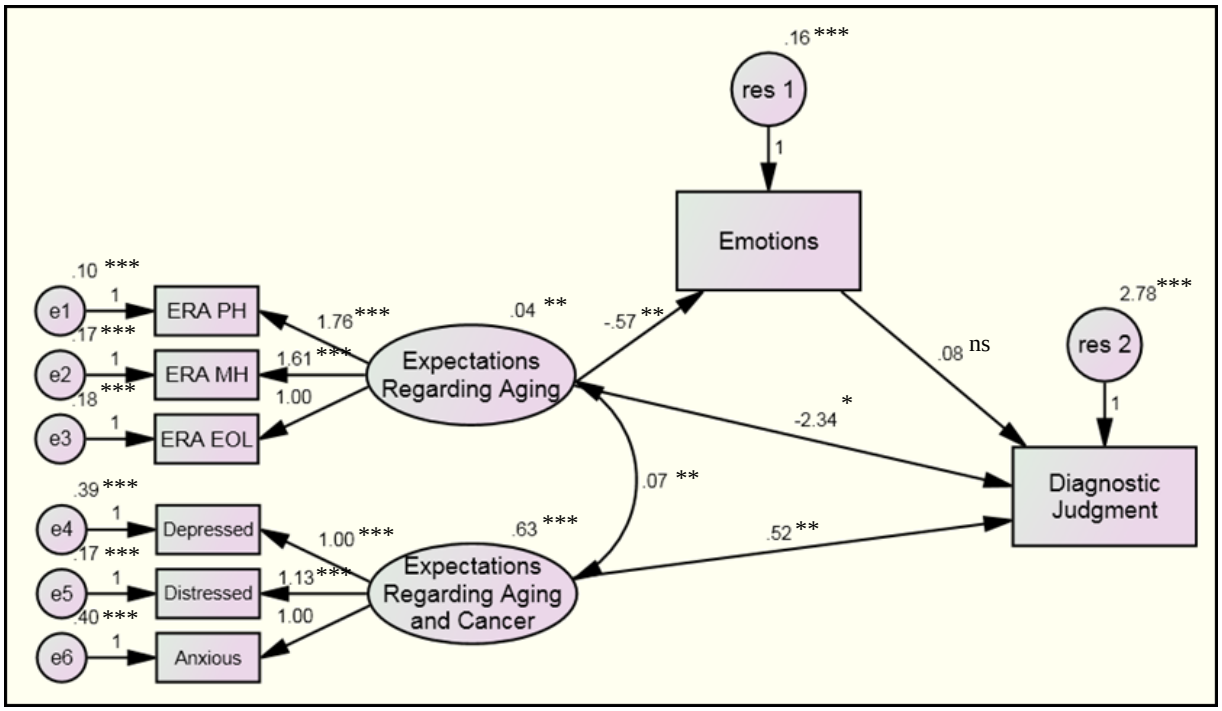


***p >.001, **p > .01, *p > .05, ns = not significant

Anticipatory Judgment Age-38

This model captures the path analysis of the latent variables Expectations Regarding Aging and Expectations Regarding Aging with Cancer, with Emotions and Anticipatory Judgment for Age-38. The fit indices suggest that this model has a moderate fit with the Age-38 dataset. The factor loadings for this dataset indicate that the paths between ERAC and AJ, ERA and AJ, and Emotions and AJ are all non-significant as shown in Figure 25 above. This moderate fit contrasted with the good fit of the Age-78 dataset for the same model suggests that oncology social workers respond differently based on the age of the patient. The results of this analysis supports hypothesis 3(a).

Figure 26. Diagnostic Judgment Age-78



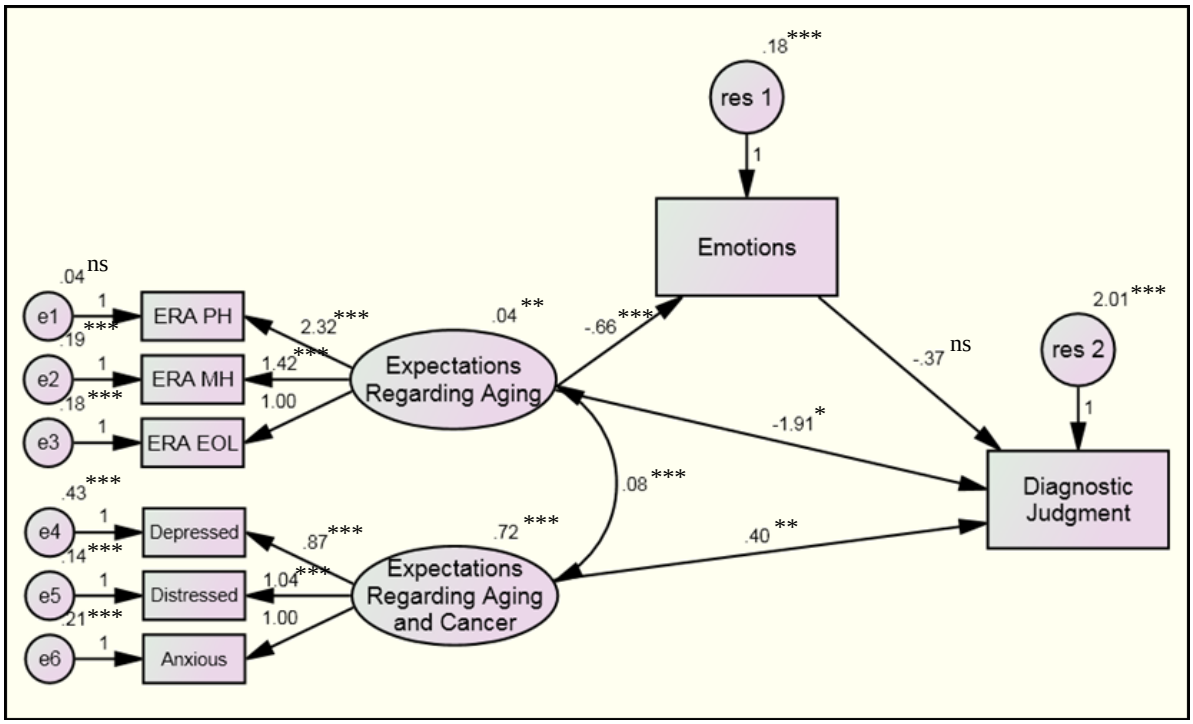
***p >.001, **p > .01, *p > .05, ns = not significant

Diagnostic Judgment Age-78

This model captures the path analysis of the latent variables Expectations Regarding Aging, and Expectations Regarding Aging with Cancer, with Emotions and Diagnostic Judgment for Age-78. The fit indices suggest that this model fits well with the Age-78 dataset. As noted in Figure 26 above, there is a significant positive path between ERAC and Diagnostic Judgment (DJ), i.e., when ERAC goes up by 1, DJ goes up by .52. There is also a significant positive path between ERA and Emotions, i.e., when ERA goes up by 1, Emotions goes down by 0.57. These paths are similar to the corresponding paths found in the Anticipatory Judgment Model for Age-78. However, there are some key differences. There is a significant negative path between ERA and DJ such that when ERA goes up by 1, DJ goes down by 2.337. Moreover, the path between

Emotions and DJ is non-significant. In other words, Emotions has no influence and ERA has a negative influence on Diagnostic Judgment.

Figure 27. Diagnostic Judgment Age-38



***p >.001, **p > .01, *p > .05, ns = not significant

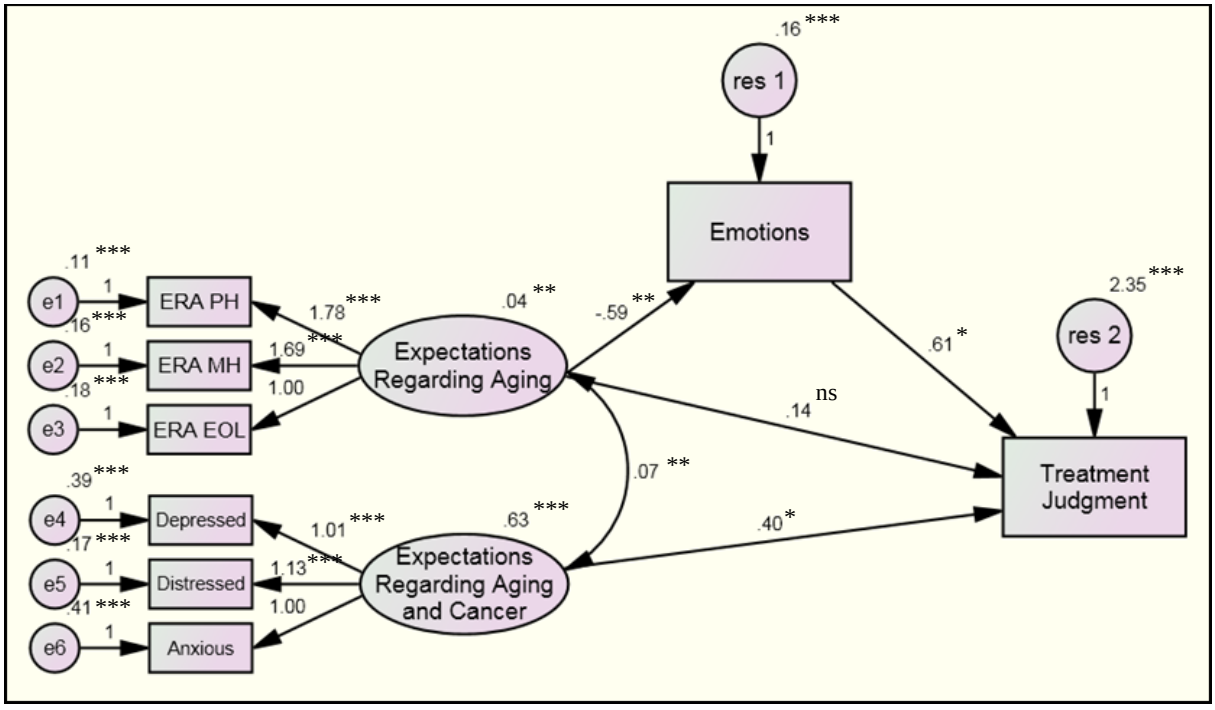
Diagnostic Judgment Age-38

As in Figure 17 above, this model captures the path analysis of the latent variables Expectations Regarding Aging and Expectations Regarding Aging with Cancer, with Emotions and Diagnostic Judgment for Age-38. The fit indices suggest that this model has a moderate fit with the Age-78 dataset. As can be seen in Figure 27 above, there is a significant positive path between ERAC and AJ; when ERAC goes up by 1, AJ goes up by .40. There is a significant negative relationship between ERA and Emotions, i.e.,

when ERA goes up by 1, Emotions go down by .66. Similar to the Age-78 path for the same model, there is a significant negative path between ERA and DJ, i.e., when ERA goes up by 1, DJ goes down by 1.91. The path between Emotions and DJ is non-significant as well.

The findings from the Diagnostic Model run with the Age-78 and Age-38 datasets imply that Emotions do not play a role during the Diagnostic Judgment phase. Moreover, Expectations Regarding Aging have the opposite effect than hypothesized or found in the Anticipatory Judgment model. The results of this analysis do not support hypothesis 3(c).

Figure 28. Treatment Judgment Age-78

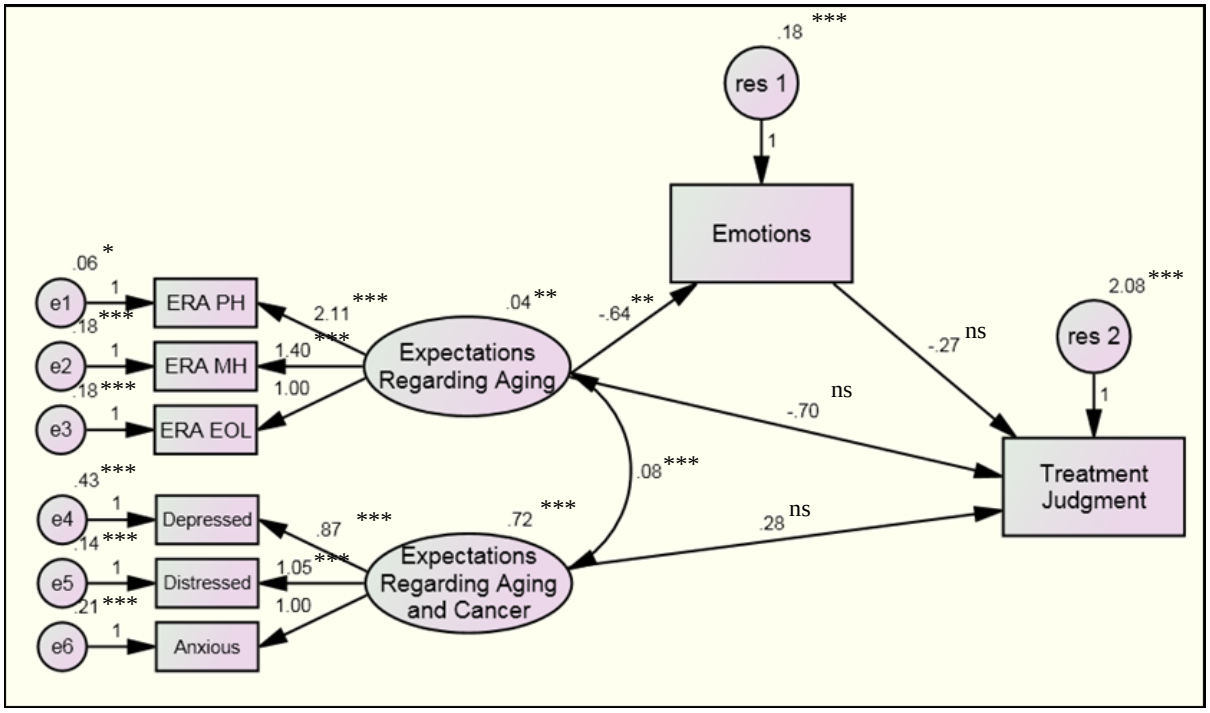


***p >.001, **p > .01, *p > .05, ns = not significant

Treatment Judgment Age-78

This model captures the path analysis of the latent variables, Expectations Regarding Aging and Expectations Regarding Aging with Cancer, with Emotions and Treatment Judgment for Age-78. The fit indices suggest that this model fits well with the Age-78 dataset. The factor loadings are similar to those found in the Anticipatory Judgment model for this same dataset, but not as strong. As noted in Figure 28 above, there is a significant positive path between ERAC and Treatment Judgment (TJ); when ERAC goes up by 1, TJ goes up by .40. There is a non-significant path between ERA and TJ. However, there is a negative path between ERA and Emotions; when ERA goes up by 1, Emotions goes down by 0.59. The relationship between Emotions and TJ is positive; when Emotions goes up by 1, TJ goes up by .61.

Figure 29. Treatment Judgment Age-38



***p >.001, **p > .01, *p > .05, ns = not significant

Treatment Judgment Age-38

This model captures the path analysis of the latent variables Expectations Regarding Aging and Expectations Regarding Aging with Cancer, with Emotions and Treatment Judgment for Age-38. The fit indices suggest that this model has a mediocre fit with the Age-78 dataset. Similar to the Anticipatory Judgment model for this same dataset, the factor loadings of the paths between Emotions and TJ, ERA and TJ, and ERAC and TJ are non-significant (see Figure 29 above). In other words, there are no significant paths connected to the predictor variable. This mediocre fit contrasted with the good fit of the Age-78 dataset for the same model suggests that oncology social workers respond differently based on the age of the patient. The results of this analysis supports hypothesis 3(c).

Hypothesis 4

In this study, social worker's Emotions were hypothesized to have an indirect path between their Expectations Regarding Aging (predictor variable) and the Clinical Judgment phases (response variables). Before reporting on the indirect effect, this section will examine the reliability of the Emotions scale and the age-based differences in respondents reported emotions with respect to the patient.

Factor Analysis of the Emotion Items

The Situational Emotionality Scale (Emotions) in this study consisted of 6 items that were derived from the text of the grounded theory study. A factor analysis was run to analyze interrelationships among the 6 items and to explain these items in terms of their common underlying dimensions. Prior to running the factor analysis, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) was examined to assess the appropriateness of using factor analysis on the data. Values greater than .5 indicate the

distribution is suitable for factor analysis. KMO in this analysis was calculated at .796 indicating a satisfactory level of inter-correlation among the items. Bartlett's test of sphericity was applied to test if the correlation matrix is an identity matrix, which would indicate that the factor model is inappropriate. Bartlett's test of sphericity for the 6 items suggested a significant correlation between the items indicating that the factor model would be appropriate, χ^2 (15) = 548.922, p <.001.

The factor analysis was initially run using the Maximum Likelihood extraction method with Varimax Rotation. A scree test was used to identify eigenvalues greater than one. One factor was identified for all of the items explaining 49.30% of the variance (Hair et al., 1998). Rotation methods are not applicable for one factor scales. Table 23 below lists each item of the scale and their factor value.

Table 23. Results of Factor Analysis for 6-Item Situational Emotionality Scale

Item Name	Item	Factor Loading Emotions
EMOT-1.	I can get emotional talking about a case like this.	.793
EMOT-2.	I sometimes get teary with cases like these.	.416
EMOT-3.	My empathy for this patient would be higher than for most other patients.	.725
EMOT-4.	Addressing advance directives with this patient would be emotionally difficult for me.	.728
EMOT-5.	I would feel very sad for this patient and the patient's family.	.440
EMOT-6.	This would be a tough case for me, emotionally.	.607
% of variance		49.302

Extraction Method: Principle Axis Factoring
Rotation Method: Not applicable for a 1 factor scale

Reliability

Cronbach's alpha was calculated to test for internal consistency. The 6-item Emotion scale achieved a Cronbach alpha of .790 which meets the criteria for adequacy. The scale has a mean of 12.84 (SD= 2.761, N=322). The item and scale statistics are displayed in Table 24 below. Only the removal of EMOT-2 would improve Cronbach's alpha for Emotions. Because the improvement would be slight, the item was retained in the scale.

Table 24. Item and Scale Statistics for Emotion Scale

N=322	Mean	SD	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	**(α)** if Item Deleted
EMOT-1	1.99	.658	10.84	5.147	.684	.496	.720
EMOT-2	2.83	.656	10.01	5.953	.386	.156	.792
EMOT-3	2.08	.734	10.76	5.094	.600	.463	.741
EMOT-4	2.02	.665	10.82	5.297	.615	.461	.737
EMOT-5	2.13	.620	10.70	5.973	.417	.216	.783
EMOT-6	1.79	.621	11.05	5.633	.544	.353	.755

Indirect Effects

Bootstrapping, a re-sampling method for testing the statistical significance of indirect/mediating effects, was applied to that data to test Hypothesis 4. A bootstrap approximation was obtained in AMOS by constructing two-sided bias- corrected confidence intervals for each iteration. A significant mediating effect was found within

the Anticipatory and Treatment Judgment phases for the age-78 dataset. As shown in Table 25 below, no indirect effects were found among with the age-38 dataset and Age-78 Diagnostic Judgment phase.

Table 25. Indirect Effects of Emotion by Judgment Phase by Patient Age

			95% Confidence Level		
	B	*SE*	Lower	Upper	p
Anticipatory Judgment					
Age 78	-.520	.114	-1.722	-.070	.020*
Age 38	-.228	.270	-.907	.143	.222
Diagnostic Judgment					
Age 78	-.046	.261	-.544	.504	.764
Age 38	.242	.235	-.061	.922	.116
Treatment Judgment					
Age 78	-.360	.133	-1.209	-.003	.047*
Age 38	.170	.242	-.150	.892	.273

*significant results

With respect to the Age-78 dataset, the indirect effect of Expectations Regarding Aging on Anticipatory Judgment is -.520. In other words, due to the indirect effect of Expectations Regarding Aging on Anticipatory Judgment, when Expectations Regarding Aging goes up by 1, Anticipatory Judgment goes down by 0.52. This is in addition to any direct effect that Expectations Regarding Aging may have on Anticipatory Judgment. .380 is a bootstrap estimate of the standard error of the indirect effect of Expectations Regarding Aging on Anticipatory Judgment. -1.722 is the lower endpoint of a two-sided bias-corrected bootstrap confidence interval for the indirect effect of Expectations

Regarding Aging on Anticipatory Judgment and -.070 is the upper endpoint. Confidence level is 95 percent. The indirect effect of Expectations Regarding Aging on Anticipatory Judgment is significantly different from zero at the 0.001 level (p=.020 two-tailed).

Likewise, the indirect effect of Expectations Regarding Aging on Treatment Judgment is -.36. Due to the indirect effect of Expectations Regarding Aging on Treatment Judgment, when Expectations Regarding Aging goes up by 1, Treatment Judgment goes down by 0.36 for patients Age-78. This is in addition to any direct effect that Expectations Regarding Aging may have on Treatment Judgment. .303 is a bootstrap estimate of the standard error of the indirect effect of Expectations Regarding Aging on Treatment Judgment. -1.209 is the lower endpoint of a two-sided bias-corrected bootstrap confidence interval for the indirect effect of Expectations Regarding Aging on Treatment Judgment and -.003 is the upper endpoint of a two-sided bias-corrected bootstrap confidence interval for the indirect effect of Expectations Regarding Aging on Treatment Judgment. The indirect effect of Expectations Regarding Aging on Treatment Judgment is significantly different from zero at the 0.001 level (p=.047 two-tailed).

Additionally, with respect to the combined age dataset, the indirect effect of Expectations Regarding Aging on Anticipatory Judgment is -.535. That is, due to the indirect effect of Expectations Regarding Aging on Anticipatory Judgment, when Expectations Regarding Aging goes up by 1, Anticipatory Judgment goes down by 0.535. This is in addition to any direct effect that Expectations Regarding Aging may have on Anticipatory Judgment. .239 is a bootstrap estimate of the standard error of the indirect effect of Expectations Regarding Aging on Anticipatory Judgment. -1.104 is the lower endpoint of a two-sided bias-corrected bootstrap confidence interval for the indirect effect of Expectations Regarding Aging on Anticipatory Judgment. -.183 is the upper

endpoint of a two-sided bias-corrected bootstrap confidence interval for the indirect effect of Expectations Regarding Aging on Anticipatory Judgment. The indirect effect of Expectations Regarding Aging on Anticipatory Judgment is significantly different from zero at the 0.001 level (p=.001 two-tailed). No other indirect effects were found.

Hypothesis 4, Emotions mediate the relationship between Expectations Regarding Aging and Clinical Judgment is supported for Anticipatory Judgment for Age-78 and Treatment Judgment for Age-78.

Hypothesis 5

Gender effects

Hypothesis 5 asserts that age differences in clinical judgment are across gender. Univariate analyses were applied to respond to this hypothesis. Because sample size for gender was unequal for the male and female groups, this analysis was run with the original unequal groups and equal groups. Six cases were randomly deleted from the female group in order to create equal sample sizes of n=158 for the two groups. Minimal difference was found between the two analyses. The results are reported for equal groups (see Table 25 below). Significant gender effects were found for Anxiety, Finance and Home Care during the Anticipatory Judgment Phase and Finance during the Diagnostic Judgment phase. Anxiety was more likely to be prioritized higher with male patients than with females patients [$F(1,316) = 10.773$, $p < .001$]. Likewise, Home Care was more likely to be prioritized higher for female patients than male patients [$F(1,316) = 19.850$, $p < .001$]. Finance was more likely to be prioritized higher with Male patients than with Female patients [$F(1,316) = 6.596$, $p < .01$] during the Anticipatory Judgment phase and [$F(1,316) = 5.634$, $p < .01$] during the Diagnostic Judgment phase. Effect sizes remained

small for all but Home Care which had a moderate effect. There were no significant gender effects for emotion.

The F scores of the four items with significant gender effects were compared with the F scores of those same items for age (see Table 26 below). The effects of age and gender during the Anticipatory Judgment phase were fairly equivalent for Anxiety. However, age effects were stronger for Finance and Home Care. Likewise, age effects were stronger for Finance during the Diagnostic Judgment phase. Though this analysis demonstrates that gender effects exist, the effect sizes for gender were much smaller than those for age, except for Anxiety where effect size was equivalent. No other analysis on gender effects was deemed necessary for this study.

Table 26. Comparison of Significant F Scores by Age and by Gender

		Age			Gender		
Response variable	df	F	p	Partial Eta^2	F	p	Partial Eta^2
Anticipatory Judgment							
Anxiety	1	12.141	.001	.037	10.773	.001	.033
Finance	1	27.371	.001	.081	6.596	.011	.021
Home care	1	56.855	.001	.154	19.850	.001	.060
Diagnostic Judgment							
Finance	1	19.189	.001	.058	5.634	.018	.018

Table 27. Means, Standard Deviations and Univariate Tests for Clinical Judgment by Gender

	Female		Male		Gender	
Variable	*M*	*SD*	*M*	*SD*	F	Partial Eta^2
Anticipatory Judgment						
Depression	2.77	1.44	2.91	1.29	1.164	.004
Anxiety	3.57	1.67	4.15	1.59	10.773***	.033
Adjustment	4.57	1.73	4.37	1.59	1.223	.004
Transportation	3.12	1.61	2.96	1.55	1.246	.004
Finance	3.88	1.51	4.25	1.45	6.596**	.021
Home care	3.08	1.63	2.37	1.64	19.850***	.061
Diagnostic Judgment						
Depression	4.46	1.42	4.46	1.45	.000	.000
Anxiety	2.94	1.53	2.82	1.37	.558	.002
Adjustment	3.46	1.66	3.50	1.49	.025	.000
Transportation	4.70	1.30	4.67	1.36	.018	.000
Finance	3.49	1.36	3.82	1.40	5.634**	.018
Home care	1.96	1.36	1.74	1.26	2.860	.009
Treatment Judgment						
Psych/Therapy	2.27	1.40	2.32	1.34	.172	.001
Counseling	3.88	1.49	4.13	1.46	2.203	.007
Education	3.55	1.48	3.51	1.56	.087	.000
Transportation	5.02	1.12	4.88	1.24	.990	.003
Finance	3.88	1.54	3.97	1.41	.436	.000
Home care	2.43	1.48	2.19	1.41	3.067	.010
Emotion	2.13	.43	2.19	.46	2.009	.006

Significance level ***p >.001, **p > .01

CHAPTER 5

Discussion

This study tests the impact of oncology social workers' expectations regarding aging on their emotion and clinical judgment. Data for this study was collected via an on-line survey distributed through the Association of Oncology Social Workers' listserv. Participants were randomly assigned one four vignettes describing a patient diagnosed with lung cancer. These vignettes differed by the age (78 or 38) and gender (female or male) of the patient, while the content of the vignettes remained the same. Oncology social workers' expectations regarding aging were measured to provide an understanding of their beliefs about the aging process with respect to physical health, mental health, end-of-life, a cancer diagnosis and depression, a cancer diagnosis and distress, and a cancer diagnosis and anxiety. These responses were utilized to predict oncology social workers' clinical judgment during three judgment phases, i.e. anticipatory, diagnostic and treatment. Oncology social workers' emotion was evaluated as a possible indirect effect between expectations regarding aging and clinical judgment. Age differences across gender were also evaluated.

Discussion of Findings

Discussion of Demographic Findings

Consistent with the demographic make-up of the Association of Oncology Social Work (AOSW), the sample is fairly homogeneous with respect to gender and ethnicity. Moreover the age distribution of this study is consistent with that of the AOSW membership (J. Uitto, personal communication, April 29, 2011). Thus, this sample consisted of respondents who were primarily female, White/Euro-American with slightly more than half age 50 or above. A small number of the respondents, 33 (10.2%), had

been diagnosed with cancer themselves. Because these respondents were distributed between the two age groups, their responses did not significantly influence the study findings. Overall, this was a well educated, experienced sample. Over 94% were educated at the master's level and over 78.3% had four or more years of oncology social work experience. These professional characteristics were in-line with previous research that utilized the AOSW listserv (Zebrack et al., 2008).

Sample sizes were equal for each age group (n=161), but were unequal for the gender groups. In order to explore significant age effects across gender, gender was studied with both equalized and actual unequal sample sizes. In order to achieve the equal sample sizes, six cases were randomly deleted from the female group prior to gender specific analyses which resulted in a final sample size of n=158 for each gender group. Demographic differences between the groups were minimal. "Number of years oncology experience" was the only significant difference found between age groups and "practice setting" was the only significant difference found between gender groups. However, further analyses of these variables indicated that these differences did not significantly affect the study variables.

Discussion of Hypothesis One

Hypothesis one asserts that oncology social workers' clinical judgment differs based on the age of their patient. A one-way analysis of variance detected differences in the clinical judgment of oncology social workers at all three phases of clinical judgment. However, these differences were not consistent among the phases.

Differences in prioritization of needs based on patient age was most evident in the anticipatory judgment phase. Based solely on knowledge of the age, gender, marital status, number of children and diagnosis of the patient, respondents prioritized younger

patients as having higher psychological/emotional needs (i.e., Depression, Anxiety) and older patients as having higher functional needs (i.e., Transportation, Finance and Home Care). This finding is consistent with the literature (Ellis et al., 2009; Perlick & Atkins, 1984; Rohan et al., 1994) which found that younger patients were more likely to be provided psychological/emotional support.

The diagnostic phase proceeded after respondents were provided with Part-2 of the vignette which provided them with a patient assessment. Significant age differences were found in the prioritization of patient needs in Adjustment, Finance and Home Care during this phase. Finance was judged higher for younger patients and Home Care was judged higher for older patients. Adjustment was significantly higher for Mary-78, than for Mary-38. Moreover, priorities during this phase shifted from the previous judgment phase. Depression increased significantly across all vignettes indicating that the Oncology Social Workers were able to identify depression from the symptoms that were expressed in the vignette and subsequently judge depression as a high priority. This finding is consistent with the Ellis study (2009) where depression was recognized in patients regardless of patient's age. Only Transportation was ranked above Depression and then only slightly. Overall, across the four vignettes, the psychological/emotional needs of patients were judged higher than functional needs during the diagnostic phase.

After prioritizing patient diagnosis, respondents were asked to prioritize treatment. Significant age differences in the prioritization of patient needs were found in Finance and Home Care. Finance continued to be prioritized higher for younger patients while Home Care continued to be prioritized higher for older patients. Priorities shifted between the diagnostic and treatment phases, even though no additional patient information was provided. Therapy/Referral for Psychological Services was judged as the lowest priority for the Age-78 vignettes and the second lowest priority for the Age-38

vignettes. This finding was surprising given the high priority assigned to Depression during the diagnostic phase. The difference between the prioritization of Depression in the diagnostic phase and the prioritization of Therapy/Referral for Psychological Services during the treatment phase was statistically significant. Moreover, prior research, though limited, has shown that younger patients who are diagnosed with depression are generally provided treatment or a referral for treatment (Ellis et al., 2009; Rohan et al., 1994). Although Depression was prioritized higher for Age-38 than Age-78, this difference was not statistically significant. Counseling was prioritized above the midpoint for older patients and at the midpoint for younger patients, however, these differences were not statistically significant. Perhaps respondents would expect to treat depression with counseling without treatment or referral. Consistent with the diagnostic phase, transportation was judged as the top priority across all vignettes. The prioritization scores were slightly higher for Age-38 patients but these were not statistically significant. Overall, although respondents prioritized the psychological/emotional needs of all patients higher during the diagnostic phase, the functional needs were prioritized higher during the treatment phase. For both Mary-78 and James-38, this difference was significant. The findings during the treatment phase of this study were not consistent with the literature that demonstrated that age of patient influenced treatment decisions (Ellis et al., 2009).

This key finding may indicate that social workers feel confined by their perceived role in their institution and subsequently limit treatment parameters to that narrow role. Access to treatment modalities may be limited or non-existent leading to omission of depression in the treatment plan. Additionally, social workers' sense of self-efficacy in assessing depression may be low and therefore depression may not be addressed. Moreover, social worker's personal beliefs regarding mental health, depression and

treatment may affect their willingness to address this issue. These beliefs may include stigma associated with mental health, economic implications, or the impression that depression is normal with a cancer diagnosis. Finally, pre-judgment may guide treatment planning without regard to assessment data.

Discussion of Hypothesis Two

Hypothesis two asserts that oncology social workers in general have low expectations regarding aging. That is they have different expectations of older patients compared to younger patients with regard to physical health, mental health, preparedness for end-of-life, a cancer diagnosis and depression, a cancer diagnosis and distress, and a cancer diagnosis and anxiety. The ERA and ERAC scores indicated low or moderate Expectations Regarding Aging for ERA PH, ERA EOL, ERAC-Depression, ERAC-Distress and ERAC-Anxiety. Expectations Regarding Aging was generally high for ERA MH.

ERA PH: The scale score for the ERA PH was 54.40 indicating a moderate level of expectations regarding, neither expecting decline in health, indicated by a lower score, or successful aging, indicated by a higher score. A look at the individual statement scores reveals a clear delineation between the four items; respondents were more likely to agree with two items (ERA-2 and ERA-3) and less likely to agree with the other two (ERA-1 and ERA-4). A comparison of all 15 items in the scale identifies the two items with lower agreement (ERA-1 and ERA-4) as having lower communal scores and lower factor loadings than the other 13 items in the scale. Further examination of ERA-1 and ERA-4 reveals wording that may be construed differently from the other statements. For example, ERA-1, “When people get older they need to lower their expectations of how healthy they can be,” might be interpreted as paternalistic and/or disempowering by

oncology social workers because it contains the phrases “they need to” and “lower their expectations.” The other statement “Every year that people age, their energy levels go down a little” could be interpreted as vague because the age in which energy levels start to decline is not defined. Perhaps re-wording these questions will raise the communal scores and factor loadings of the items and put them in line with the other items in the scale.

ERA MH: The scale score for the ERA MH was 80.67 indicating high expectations of successful aging regarding mental health. The majority of respondents did not agree that it is normal to be lonely or spend less time with family and friends as one ages. Nor do they agree that it is normal to be depressed or worry more as people get older.

ERA EOL: The scale score for the ERA EOL was 36.35 indicating an expectation of death and preparation for death as one ages. The majority of respondents agreed that people begin to think about and prepare for end-of-life as they age. Moreover, 94.1% of the respondents expected to plan for end-of-life as they grew older.

ERAC items: These statements looked at expectations regarding aging and mental health specifically with respect to a cancer diagnosis. The items examine respondents’ expectations that younger patients with a cancer diagnosis are more likely to be depressed, distressed or anxious than older patients with a cancer diagnosis. The scale score for ERAC Depression was 60.33, ERAC Distress was 53.33, and ERA Anxiety was 56.00 indicating a moderate level of expectation that younger patients will have more mental health needs with a cancer diagnosis.

Discussion of Hypothesis Three

Hypothesis three asserts that oncology social workers' expectations regarding aging and expectations regarding aging with cancer predict their clinical judgment during the anticipatory, diagnostic and treatment judgment phases of patient care. Structural equation modeling was used to test the paths of the co-varying latent variables Expectations Regarding Aging and Expectations Regarding Aging with Cancer, with the three phases of Clinical Judgment. Good model fit was achieved for the Anticipatory, Diagnostic and Treatment Judgment models for Age-78 and the Diagnostic Judgment and Treatment models of Age-38. Although Age-38 data fit less well for Anticipatory Judgment, a larger sample size may improve this fit. Model fit indicates that respondents' age expectations and emotion contribute to their clinical judgment.

Additionally, this analysis identified differences in factor loadings for Diagnostic Judgment compared to Anticipatory Judgment and Treatment Judgment. The factor loadings for Emotions on Diagnostic Judgment were not significant, while the factor loadings for Expectations Regarding Aging were negative and significant. These differences suggest that emotion may play a minimal role in diagnostic judgment. Moreover, the factor loadings suggest that when social work emotions play a minimal role in clinical judgment, oncology social workers' expectations regarding aging have an opposite effect on social workers' diagnosis of patient's psychological/emotional need. This may suggest that putting aside one's emotion removes the influence of age biases in clinical judgment.

One possible explanation for this phenomenon relates to social work education. Perhaps the construct of professional standards rather than personal values guiding practice have a greater emphasis on the assessment/diagnostic phase in the social work curricula rather than on the preparation or treatment plan phases. Hence, social workers

may be taught to ignore their personal responses during diagnostic judgment without the same emphasis applied to anticipatory and treatment judgment.

It is important to note that respondents did not actually do the assessment – it was presented to them. Thus, another possible explanation could be that the presentation of an assessment may have rendered responses during the diagnostic judgment phase less individually specific and more akin to standardized testing responses.

Finally, any differences identified in model fit between Age-38 data and Age-78 data may be due to the fact that the model was developed with the older patient as the focal point, sought differences in older age and was based on measurements relevant to aging and getting older.

Discussion of Hypothesis Four

Hypothesis four asserts that Emotion serves as an indirect path between Expectations Regarding Aging (predictor variable) and Clinical Judgment (response variables). This hypothesis was addressed through bootstrapping, a re-sampling method used to test the statistical significance of indirect (mediating) effects. The analysis identified Emotions as an indirect path for the Anticipatory Judgment and Treatment Judgment models for Age-78. Emotions did not have a significant mediating effect for the Diagnostic Judgment model for both Age-78 and Age-38, or for the Anticipatory Judgment or Treatment Judgment models for Age-38.

Earlier analyses suggested that social worker emotion plays a minimal role in the Diagnostic Judgment phase. This implies that Emotions is not an indirect path for this phase. A possible explanation for the absence of an indirect effect for Age-38 data during the Anticipatory Judgment and Diagnostic Judgment phases could be sample size. Perhaps a larger sample would identify an indirect effect.

Discussion of Gender

Gender differences across age groups were explored for possible control purposes. Univariate analyses were used to identify any effects of patient's gender on clinical judgment. Though significant gender effects were found for Anxiety, Finance and Health Care in the Anticipatory Judgment phase, and Finance in the Diagnostic Judgment phase, these were small compared to the age effects found with these variables. These findings were in-line with the literature (Kales et al., 2005; Olfson et al., 2001; Wrobel, 1993). No further analyses on gender was deemed necessary for this study.

Strengths and Limitations

This study had several strengths. It appears to be the first study to examine social workers' decision making processes from initial contact with the patient through diagnosis, then treatment, providing a window into what social workers do when they have a case. Moreover, it was grounded in the findings of previous research completed by this author. This study was developed using a scale that had acceptable reliability scores (Sarkisian, Steers et al., 2005) including the measures that were created for this study. The vignette was adapted from a vignette that had been previously tested and used (Choi & Morrow-Howell, 2007; Landreville et al., 2006). The survey instrument in this study was reviewed and tested by eight members of the Geriatric Oncology Research Team headed by Dr. Jimmie Holland, Wayne E. Chapman Chair in Psychiatric Oncology at Memorial Sloan-Kettering Cancer Center, along with a nurse who was not a member of this team, but had experience with patients diagnosed with cancer. Prior to release of the survey instrument to the AOSW SWON listserv, a pilot of the on-line survey was completed using a comparable group of eight oncology social workers who were not

members of AOSW. Furthermore, the author had access to the Association of Oncology Social Work listserv to recruit participants for the study. Moreover, the scales developed for this study were reliable and correlated with the ERA-12 subscales (i.e., ERA PH and ERA MH). Though the response rate is only 35%, the sample characteristics are representative of the AOSW population.

This study includes several limitations. Limitations can be found in the survey design, particularly with finding instruments to measure constructs of the conceptual model. Instruments to measure situational emotionality were limited and not feasible for this study. Thus, the scale to measure situational emotionality was developed using the interview text of oncology social workers from a previous qualitative study. Moreover, there appeared to be no instruments to measure expectations regarding aging with respect to preparation for end-of-life. As with situational emotionality, a subscale to measure expectations regarding aging with respect to preparation for end-of-life was developed using the oncology social workers' interview text from the same qualitative study. Furthermore, the wording of two statements on the ERA PH may not be consistent with the rest of the instrument statements and this may minimize oncology social workers' expectations regarding aging with respect to physical health. Another limitation to the survey design is the use of vignettes instead of direct observation of oncology social workers' behavior. Though vignettes have proven to be a valid method of data collection with physicians (Peabody et al., 2000; Peabody et al., 2004), it may not be as successful with social workers. Also, the survey did not provide a method for respondents to explain their treatment decisions. Finally, the inclusion of the purpose of the study on the

consent form. Disclosing the study's purpose may inadvertently create a social desirability effect whereby respondents receiving the Age-78 case would alter their responses on the Expectation Regarding Aging subscales.

Limitations may also be found in the data collection process. The long consent form, containing 327 words, may have served as a barrier to participation in the study. Observation of survey traffic during the first two days of recruitment indicated that approximately 100 potential participants clicked on the survey link, viewed the consent form and decided not to go further. Other than not having an interest in the topic of aging and cancer, perhaps the consent form was too long and potential participants did not have the time to read it and thereby chose not to participate in the study. IRB approval was obtained to shorten the consent form to 258 words however, this too may have seemed long. Moreover, only one follow-up recruitment effort was permissible during data collection which may have limited recruitment of participants.

Finally, the sample characteristics may pose a limitation to the findings of this study. Even though the sample is representative of the AOSW population, the homogeneity of the sample characteristics may reflect a limitation in the study because minority representation is small.

Implications

Implications for Social Work Practice

This study highlights several implications for social work practice. The results suggest that social workers' prioritization of patient needs during the treatment judgment phase do not necessarily follow their prioritization of patient needs during the diagnostic

judgment phase, particularly with respect to depression. Though social workers were able to identify depression when symptoms of depression were presented to them in the vignette, their provision of proper treatment for depression (i.e., Psych Referral/Therapy) was given low priority in the treatment plan. This finding suggests a barrier to "whole-patient" care and is particularly concerning as depression with cancer is linked to lower quality of life and elevated risks in mortality (Pinquart & Duberstein, 2010). There are several possible explanations for the respondents' decision to prioritize depression treatment low. Social workers may not have been trained in evidenced based interventions for depression. Perhaps they do have the knowledge but do not have the proper skill set to provide the treatment(s). Social workers may not have the time to provide treatment for depression or possibly, treatment for depression is outside the scope of their employment contract. However, the results also indicate that social workers do not refer the patient to another professional who could provide the appropriate treatment. This reluctance to refer may imply a lack of knowledge to refer, lack of institutional or community resources for help with depression, or perhaps professional rivalry.

Additionally, the findings suggest differences in clinical judgment in all three judgment phases based on patient's age. Differences were most pronounced during the Anticipatory Judgment phase which reflects social workers' prioritization of patient needs prior to an assessment. In this study, the psychological/emotions needs were prioritized higher for the younger patients and functional needs were prioritized higher for the older patients. These anticipated differences in priorities based on the patient's age may frame social workers' approach toward the patient and patient care, and provide subtle cues to the patient of what is, or is not, expected from them.

These findings also suggested that emotions play a role in social workers' anticipatory and treatment judgment for older patients. Social workers who reported

having emotions towards the patient's situation prioritized the patient's psychological/emotional needs higher. However, those who reported little or no emotion prioritized the patient's psychological/emotional needs lower. This finding implies that social worker emotion (or lack of emotion) toward the patient's situation may bias care.

Implications for Social Work Education

Several implications for social work education are identified in this study. The low priority scores for "Provide Psych Referral/Therapy" suggest a need for social work training at the bachelor's and master's, post master's level to place greater emphasis on the treatment phase of client care. Education that extends beyond an overview of treatment methods to actually teaching the methodology would make social work practitioners more valuable to their institution and their clients. Moreover, because respondents in this study prioritized psych referrals very low, education on the clinical and ethical importance of patient referrals may be warranted. Furthermore, more education may be necessary with respect to social worker' emotions towards the patient's situation and the implication of these emotions on clinical judgment and client care.

Implications for Social Work Policy

The social work code of ethics is very precise in warning social work practitioners not to provide services beyond their expertise. However, it may enhance the social work profession to have a corollary to this code that encourages social workers to gain treatment expertise in one or more therapeutic modalities. This policy might to the Council of Social Work Education's Educational Policy and Accreditation Standards. Social work departments within a hospital might consider adding treatment evidence-based treatment modalities.

Implications for Social Work Research

This study identifies a number of implications for further social work research. The results suggest that further research is needed regarding the survey instrument used in this study. The survey may be distributed specifically to a population of oncology social workers who are racial and ethnically diverse to test if findings differ from the findings in this research that has a predominantly Caucasian/Euro American make-up. Future research may also include distributing the survey with and without disclosing a purpose in order to test if this disclosure influences participants' responses. Moreover, the two items on the ERA PH subscale that had lower communal and factor loadings, might be revised and tested to see if the revision would lower the ERA PH score. Furthermore, further research could be implemented on situational emotionality, particularly with developing instruments that can test this construct with a paper or online scale.

Additionally, there are several research implications for depression treatment in a hospital/clinic setting for patients diagnosed with cancer. Future research might explore if treatment options for depression are available within cancer hospitals and clinics and, if none exists, examine if referrals are made for mental health services outside the institution. Moreover, research might explore social work's current role/scope of practice for providing therapy or referrals for therapy for treatment of depression and other mental health problems, including how social workers define counseling in an oncology setting.

Conclusion

This study focused on the affect of expectations regarding aging and social worker's emotion on clinical judgment. Its findings provide several significant contributions to social work and healthcare. A subscale was developed and tested for the

construct, “preparation for end-of-life” as a companion measure for the expectations regarding aging scale (ERA-12). The concept of measuring expectations regarding aging with a cancer diagnosis was introduced. Most importantly, the results of this research support the hypothesis that practitioners’ expectations regarding aging and emotions influence clinical judgment, particularly with respect to their anticipatory judgment. These anticipated differences in priorities based on the patient’s age may frame social workers’ approach toward the patient and patient care, and provide subtle cues to the patient of what is, or is not, expected from them. Another finding suggests that there is a disconnection in the prioritization of care between diagnosis and treatment, particularly with respect to depression. Though respondents were able to diagnose depression and prioritize this diagnosis highly, their prioritization of treatment for depression was low across all patient vignettes. This finding is in line with the literature that reports depression as undertreated (Alexopoulos, 2005; Vanitallie, 2005) and is particularly disturbing as depression with cancer is linked to lower quality of life and elevated risks in mortality (Pinquart & Duberstein, 2010). Overall, these findings identify barriers to “whole-patient” care for older patients diagnosed with cancer as well as those who are younger.

APPENDICES

Appendix A: Vignettes

Vignette #1 Female, 78

Part-1. Suppose you are an oncology social worker employed at a cancer center. Shortly after arriving at work today, you receive a page to meet with MARY. MARY is 78, married and has two children. She has recently been diagnose with lung cancer.

Part-2. You discover that MARY was admitted into the hospital last night for shortness of breath and dehydration. She is expected to start treatment next week. Moreover, she lives several miles from the cancer center and is concerned about transportation for treatment. She also worries about how the disease will affect her family and how the treatment will impact family finances. You find that Mary has been feeling sad for the past few weeks. Although usually very active, she currently finds life less interesting than before and tires more easily. She has trouble sleeping, has less appetite and finds it very difficult to make decisions. All of these symptoms make it hard for Mary to function in everyday life.

Vignette #2, Female, 38

Part-1. Suppose you are an oncology social worker employed at a cancer center. Shortly after arriving at work today, you receive a page to meet with MARY. MARY is 38, married and has two children. She has recently been diagnose with lung cancer.

Part-2. You discover that MARY was admitted into the hospital last night for shortness of breath and dehydration. She is expected to start treatment next week. Moreover, she lives several miles from the cancer center and is concerned about transportation for treatment. She also worries about how the disease will affect her family and how the treatment will impact family finances. You find that Mary has been feeling sad for the past few weeks. Although usually very active, she currently finds life

less interesting than before and tires more easily. She has trouble sleeping, has less appetite and finds it very difficult to make decisions. All of these symptoms make it hard for Mary to function in everyday life.

Vignette #3, Male, 78

Part-1. Suppose you are an oncology social worker employed at a cancer center. Shortly after arriving at work today, you receive a page to meet with JAMES. JAMES is 78, married and has two children. He has recently been diagnose with lung cancer.

Part-2. You discover that JAMES was admitted into the hospital last night for shortness of breath and dehydration. He is expected to start treatment next week. Moreover, you discover that he lives several miles from the cancer center and is concerned about transportation for treatment. He also worries about how the disease will affect his family and how the treatment will impact family finances. You find that James has been feeling sad for the past few weeks. Although usually very active, he currently finds life less interesting than before and tires more easily. He has trouble sleeping, has less appetite and finds it very difficult to make decisions. All of these symptoms make it hard for James to function in everyday life.

Vignette #4, Male, 38

Part-1. Suppose you are an oncology social worker employed at a cancer center. Shortly after arriving at work today, you receive a page to meet with JAMES. JAMES is 38, married and has two children. He has recently been diagnose with lung cancer.

Part-2. You discover that JAMES was admitted into the hospital last night for shortness of breath and dehydration. He is expected to start treatment next week. Moreover, you discover that he lives several miles from the cancer center and is concerned about transportation for treatment. He also worries about how the disease will

affect his family and how the treatment will impact family finances. You find that James has been feeling sad for the past few weeks. Although usually very active, he currently finds life less interesting than before and tires more easily. He has trouble sleeping, has less appetite and finds it very difficult to make decisions. All of these symptoms make it hard for James to function in everyday life.

Appendix B: Consent Form

Original Consent Form

The purpose of this study is to understand age differences in the needs of adults diagnosed with cancer.

You will be asked to read one short vignette in two separate parts and answer 11 questions based on the case described. You will then be asked 21 general questions about aging.

The completion of this survey will take approximately 10-15 minutes. No foreseeable risk of either mental or physical injury or discomfort is associated with participation in this study. Should you choose to participate and experience stress as a result of your participation you are encouraged to consult a licensed counselor. By participating in this study, you will be helping to identify the needs of older people diagnosed with cancer.

Data collected in this study will be held as confidential and used only in aggregate form. Data will be maintained in an electronic file by the primary researcher for at least one year. Your participation in this study is completely voluntary and you are free to discontinue at anytime. Completion of the entire survey is greatly appreciated.

Those who complete the survey will be sent a $5 Starbucks Gift Card as a token of appreciation for your time. In order to collect the $5 Starbucks Gift Card, you will be asked to provide your name and mailing address at the end of the study. Your contact information will be directed to a separate database that is not linked to the survey data. All contact information will be deleted after all Starbuck cards have been distributed (approximately 4-5 weeks).

For questions about your rights as a research participant, please contact Jody Jensen, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects at (512) 232-2685 or the Office of Research Support and Compliance at (512) 471-8871or email: orsc@uts.cc.utexas.edu.

If you have any questions regarding this study, please contact me or one of the faculty sponsors listed in the email announcing this survey.

Sincerely,
Annemarie Conlon, LCSW

By pressing the “I would like to take the survey” button below you are indicating that you have read and understand the information above and that you are willing to participate in this study. Otherwise, press on “No thank you.”

Revised Consent Form

The purpose of this study is to understand age differences in the needs of adults diagnosed with cancer.

The completion of this survey will take approximately 10-15 minutes. You will be asked to read one short vignette in two separate parts and answer 11 questions based on the case described. You will then be asked 21 general questions about aging. Data collected in this study will be held as confidential and used only in aggregate form. Your participation in this study is completely voluntary and you are free to discontinue at anytime. Completion of the entire survey is greatly appreciated.

As a token of appreciation for your time, those who complete the survey will be mailed a $5 Starbucks Gift Card. In order to collect the $5 Starbucks Gift Card, you will be asked to provide your name and mailing address at the end of the study. Your contact information will be directed to a separate database that is not linked to the survey data. All contact information will be deleted after all Starbuck cards have been distributed (i.e., approximately 8 weeks from the date of this survey).

For questions about your rights as a research participant, please contact Jody Jensen, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects at (512) 232-2685 or the Office of Research Support and Compliance at (512) 471-8871or email: orsc@uts.cc.utexas.edu.

If you have any questions regarding this study, please contact me or one of the faculty sponsors listed in the email announcing this survey.

Sincerely,
Annemarie Conlon, LCSW

By pressing the “I would like to take the survey” button below you are indicating that you have read and understand the information above and that you are willing to participate in this study. Otherwise, press on “No thank you.”

Appendix C: Geriatric Oncology Research Team

The geriatric oncology research team, lead by Dr. Jimmie Holland, Wayne E. Chapman Chair in Psychiatric Oncology at Memorial Sloan-Kettering Cancer Center, is a multidisciplinary group of professionals with expertise in geriatric oncology. The focus of this group is to develop an intervention to help older persons with cancer cope with the "normal" losses of aging while at the same time deal with their disease.

At the time of this study, members of the Geriatric Oncology Research Group included:

Jimmie Holland, MD, psychiatrist*

Andrew Roth, MD, psychiatrist

Christian Nelson, PhD, psychologist

Anne Martin, PhD, MSW, social work supervisor*

Annemarie Conlon, MBA, MSW, social work doctoral student

Mindy Greenberg, PhD, psychologist*

Eliana Balk, BA, psychology graduate student*

Liz Harvey, BA, counseling graduate student*

Sabrina Jhanwar, BA, MA psychology doctoral student*

John Gillespie, MD, psychiatrist*

Beth Baine, chaplain*

* members who pilot tested the on-line survey and provided feedback

Appendix D: Variable List

Variable Type	Variable Label	Level of Measurement	Type of Scale	# of Questions	Scale(s)
Response (Dependent)	Clinical Judgment • Anticipatory Judgment • Diagnostic Judgment • Treatment Judgment	Ordinal (as interval)	Ranking	1 1 1	Clinical Judgment Scales *
Predictor (Independent)	Expectations Regarding Aging (latent) • Physical Health • Mental Health • End-of-Life	Interval	Rating	4 4 8	ERA-PH ERA-MH ERA-EOL**
Predictor (Independent)	Expectations Regarding Aging with Cancer (latent) • Depression • Distress • Anxiety	Interval	Rating	1 1 1	ERAC items**
Mediating	Emotions	Interval	Rating	6	Situation Emotionality Scale**
Screening Questions	• Profession • License • Employed in U.S. • Time in oncology • Current position • Employment setting	Nominal	Multiple Choice	1 1 1 1 1 1	Professional Demographic
Demographic Questions	• Age • Race/Ethnicity • Gender • Cancer diagnosis	Interval Nominal Binomial Binomial	Multiple Choice	1 1 1 1	Personal Demographic

*Instrument developed using data obtained from qualitative study (Conlon, in review), the IOM Report (2008), and the Distress Thermometer (2008).
**Instrument developed based on data from qualitative study (Conlon, in review).

Appendix E: Permissions

Permission to use IOM Diagram

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April 11, 2011 **Reference #: 04111100**

Annemarie Conlon
The University of Texas
School of Social Work
1 University Station D3500
Austin, TX 78712-0358

Dear Ms. Conlon,

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Web: www.nap.edu

Permission to use Expectations Regarding Aging (ERA) Scale

Thu, February 18, 2010 12:10:10 PM
RE: ERA-12
From: "Sarkisian, Catherine" <CSarkisian@mednet.ucla.edu>
View Contact
To: Annemarie Conlon <aredelmeier@mail.utexas.edu>
Cc: "Sarkisian, Catherine" <CSarkisian@mednet.ucla.edu>

4 Files Download All
ERA_38.doc (84KB); ERA-12_summary_updated.doc (59KB); ERA38.pdf (88KB); ERA12.pdf (156KB)

Dear Ms. Conlon,

Thank you for your interest in the ERA-12 and/or the ERA-38.

The ERA-38 and ERA-12 were created with support from the Robert Wood Johnson Foundation and the National Institute on Aging (and support from UCLA) and there is no fee for their use. I only request that you use the following citation when you publish your findings using the ERA-12:

Sarkisian CA, Hays RD, Steers WN, Mangione CM. Development of the 12-item Expectations Regarding Aging (ERA-12) Survey. Gerontologist 2005;45(2):240-248.

When you publish your findings using the ERA-38 please cite:

Sarkisian CA, Hays RD, Berry S, Mangione CM. Development, Reliability, and Validity of the Expectations Regarding Aging (ERA-38) Survey. The Gerontologist 2002;42:534-542.

I am attaching word versions of the surveys (that includes scoring instructions for each scale) for your convenience.

Good luck with your current work and let me know if I can be of further assistance.

Catherine A. Sarkisian MD, MSPH
Associate Professor
UCLA Division of Geriatrics
VA Greater Los Angeles Healthcare System
Geriatric Research Education Clinical Center (GRECC)
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Fax:(310)794-2199
-----Original Message-----

From: Annemarie Conlon [mailto:aredelmeier@mail.utexas.edu]
Sent: Wednesday, February 17, 2010 9:43 PM
To: Sarkisian, Catherine
Subject: ERA-12

Dr. Sarkisian,

I am a doctoral student at the University of Texas at Austin. I am very interested in your work on expectation regarding aging. I would like to use your ERA-12 survey in my research to understand social workers' expectations regarding aging. Would it be possible to get your permission to use your survey? Additionally, would you be able to tell me if you have completed research using the ERA-12 or ERA 38 that has not yet been published?

I appreciate your time.

Best regards,

Annemarie Conlon, MBA, MSW
Doctoral Student
University of Texas at Austin
School of Social Work

Appendix F: On-line Survey

Please indicate your primary profession

- ◯ Social work
- ◯ Psychology
- ◯ Nursing
- ◯ Other (please specify)

Indicate which license you hold.

- ◯ LBSW
- ◯ LMSW
- ◯ LCSW
- ◯ Other (please specify)

Are you employed in the United States?

- ◯ Yes
- ◯ No (please specify your country of employment)

How long have you provided direct care to people diagnosed with cancer?

- ◯ Never
- ◯ < 1 year
- ◯ 1-3 years
- ◯ 4-9 years
- ◯ 10+ years

How would you describe your current position? (check all that apply)

- [ ] Administrator
- [ ] Faculty/Instructor
- [ ] Manager/Supervisor
- [ ] Practitioner (provide direct care to people diagnosed with cancer)
- [ ] Retired
- [ ] Student
- [ ] Other (please specify)

How would you describe your employment setting? (check all that apply)

- [ ] Clinic
- [ ] Cancer Foundation
- [ ] Cancer Agency
- [ ] Government agency
- [ ] Hospital/Cancer Center
- [ ] University/Educational setting
- [ ] Full-time student/Unemployed
- [ ] Other (please specify)

Please indicate your age range?

- ◯ < 30
- ◯ 30 – 39
- ◯ 40 – 49
- ◯ 50 – 59
- ◯ 60 – 64
- ◯ 65 – 69
- ◯ 70+

How would you describe your race/ethnicity?

- ◯ Black or African American
- ◯ White or Euro-American
- ◯ Hispanic/ Latina(o)/ Chicana(o)
- ◯ Asian or Asian American
- ◯ Native American or Alaskan Native
- ◯ Pacific Islander
- ◯ Middle Eastern
- ◯ Other (please specify)

Please indicate your gender.

- ◯ Female
- ◯ Male

Have you ever been diagnosed with cancer?

- ◯ Yes
- ◯ No

Click on the FIRST choice below. (NOTE: Doing this allows us to achieve random assignment.)

- ◯ Sdfdsfsdfdfsdfsdfs
- ◯ Sdfdsfdfsdfdfsdfsf
- ◯ Sdfdsfsdfsdfsdfsdf
- ◯ Sdfdsfsdsdfdsfdsfs

Please READ the vignette below. Afterwards, you will be ASKED several questions based on this vignette.

Suppose you are an oncology social worker employed at a cancer center. Shortly after arriving at work today, you receive a page to meet with MARY. MARY is 78 (Mary 38, James 78, James 38), married and has two children. She has recently been diagnose with lung cancer.

Press NEXT to continue.

Based on your experience or knowledge of similar cases, what types of needs would you expect Mary to have?

Based on your experience or knowledge of similar cases, what types of needs would you expect James to have?

PATIENT NEEDS (Prioritize)

Based on your experience or knowledge as an oncology social worker, please PRIORITIZE Mary's needs.

For example:
"1st" = Most Important; "2nd" = Second Most Important, etc.

	1st	2nd	3rd	4th	5th	6th
Anxiety	◯	◯	◯	◯	◯	◯
Adjustment to illness	◯	◯	◯	◯	◯	◯
Depression	◯	◯	◯	◯	◯	◯
Transportation	◯	◯	◯	◯	◯	◯
Financial need	◯	◯	◯	◯	◯	◯
Home care/assistance with ADLs/Caregivers	◯	◯	◯	◯	◯	◯

You complete an assessment of the patient.

You discover that MARY (JAMES) was admitted into the hospital last night for shortness of breath and dehydration. She is expected to start treatment next week. Moreover, she lives several miles from the cancer center and is concerned about transportation for treatment. She also worries about how the disease will affect her family and how the treatment will impact family finances. You find that Mary has been feeling sad for the past few weeks. Although usually very active, she currently finds life less interesting than before and tires more easily. She has trouble sleeping, has less appetite and finds it very difficult to make decisions. All of these symptoms make it hard for Mary to function in everyday life.

Press NEXT to continue.

DIAGNOSIS (Prioritize)

Based on the assessment, please PRIORITIZE the patient's needs.

For example:
"1st" = Most Important; "2nd" = Second Most Important, etc.

	1st	2nd	3rd	4th	5th	6th
Adjustment to illness	◯	◯	◯	◯	◯	◯
Home care/assistance with ADLs/Caregivers	◯	◯	◯	◯	◯	◯
Transportation	◯	◯	◯	◯	◯	◯
Depression	◯	◯	◯	◯	◯	◯
Anxiety	◯	◯	◯	◯	◯	◯
Financial need	◯	◯	◯	◯	◯	◯

TREATMENT PLAN (Prioritize)

Based on your experience or knowledge of similar cases, please PRIORITIZE the items in the treatment plan for this patient.

For example:
"1st" = Most Important; "2nd" = Second Most Important, etc.

	1st	2nd	3rd	4th	5th	6th
Securing home care/assistance with ADLs/caregivers	○	○	○	○	○	○
Providing a psych referral/therapy	○	○	○	○	○	○
Providing counseling	○	○	○	○	○	○
Providing education	○	○	○	○	○	○
Securing transportation	○	○	○	○	○	○
Securing financial assistance	○	○	○	○	○	○

Below are statements that refer to the patient in the vignette.

Please check the ONE response to the right of the statement that best corresponds with your agreement with the statement.

	Strongly Agree	Agree	Disagree	Strongly Disagree
This would be a tough case for me, emotionally.	◯	◯	◯	◯
Addressing advance directives with this patient would be emotionally difficult for me.	◯	◯	◯	◯
I can get emotional talking about a case like this.	◯	◯	◯	◯
My empathy for this patient would be higher than for most other patients.	◯	◯	◯	◯
I sometimes get teary with cases like these.	◯	◯	◯	◯
I would feel very sad for this patient and the patient's family.	◯	◯	◯	◯

Below are statements about what you may expect about aging.

Please check the ONE response to the right of the statement that best corresponds with how you feel about the statement. If you are not sure, go ahead and check the box that you think BEST corresponds with your feelings.

	Definitely True	Somewhat True	Somewhat False	Definitely False
When people get older, they need to lower their expectations of how healthy they can be.	◯	◯	◯	◯
The human body is like a car: When it gets old, it gets worn out.	◯	◯	◯	◯
Having more aches and pains is an accepted part of aging.	◯	◯	◯	◯
Every year that people age, their energy levels go down a little more.	◯	◯	◯	◯
I expect that as I get older I will spend less time with friends and family.	◯	◯	◯	◯
Being lonely is just something that happens when people get old.	◯	◯	◯	◯
As people get older they worry more.	◯	◯	◯	◯
It's normal to be depressed when you are old.	◯	◯	◯	◯

Below are statements about what you may expect about aging.

Please check the ONE response to the right of the statement that best corresponds with how you feel about the statement. If you are not sure, go ahead and check the box that you think BEST corresponds with your feelings.

	Definitely True	Somewhat True	Somewhat False	Definitely False
I expect that as I grow older, I will prepare for end-of-life.	◯	◯	◯	◯
Accepting one's mortality is just something that happens as people age.	◯	◯	◯	◯
Planning for one's death is an accepted part of aging.	◯	◯	◯	◯
I expect that younger people would have a more difficult time coping with end-of-life than older people would have.	◯	◯	◯	◯
It is normal to think about dying in old age.	◯	◯	◯	◯
Coming to terms with end-of-life is a normal part of aging.	◯	◯	◯	◯
Experiences throughout the life cycle help people deal with end-of-life as they grow older.	◯	◯	◯	◯
As people get older, they begin to plan for end-of-life.	◯	◯	◯	◯

Below are statements about what you may expect about aging and cancer.

Please check the ONE response to the right of the statement that best corresponds with how you feel about the statement. If you are not sure, go ahead and check the box that you think BEST corresponds with your feelings.

	Agree	Slightly Agree	Slightly Disagree	Disagree
A 38 y/o diagnosed with cancer is more likely to become depressed than a 78 y/o diagnosed with cancer.	◯	◯	◯	◯
A 38 y/o diagnosed with cancer is more likely to be distressed than a 78 y/o diagnosed with cancer.	◯	◯	◯	◯
A 38 y/o diagnosed with cancer is more likely to have high levels of anxiety than a 78 y/o diagnosed with cancer.	◯	◯	◯	◯

THANK YOU FOR COMPLETING THE SURVEY!

In order to receive the $5 Starbucks' Giftcard, click on the link below. This will take you to a separate database.

Click Here for the Starbucks' Giftcard

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